YAMAHA

2020 WaveRunner
EXR

OWNER'S/OPERATOR'S MANUAL

⚠ Read this manual carefully before operating this watercraft.

YAMAHA MOTOR CO., LTD.
F4L-F8199-71-E0

Read this manual carefully before operating this watercraft. This manual should stay with the WaveRunner if it is sold.

EJU45013

Declaration of Conformity for Personal Watercraft (PWC) with the requirements of Directive 2013/53/EU

Name of PWC Manufacturer: YAMAHA MOTOR CO., LTD.
Address: 2500 Shingai, Iwata, Shizuoka 438-8501, Japan

Name of Authorised Representative: YAMAHA MOTOR EUROPE N.V.
Address: Koolhovenlaan 101, 1119 NC Schiphol-Rijk, The Netherlands

Name of Notified Body for exhaust and noise emission assessment: SNCH **ID Number:** 0499
Address: 11, route de Luxembourg BP 32, Sandweiler, L-5230. Luxembourg

Conformity assessment module used:

for construction:	**A** ☒	**A1** ☐	**B+C** ☐	**B+D** ☐	**B+E** ☐	**B+F** ☐	**G** ☐	**H** ☐
for exhaust emissions:			**B+C** ☒	**B+D** ☐	**B+E** ☐	**B+F** ☐	**G** ☐	**H** ☐
for noise emissions:	**A** ☐	**A1** ☒					**G** ☐	**H** ☐

Other Community Directives applied		**Standards**	
☒	Electromagnetic Compatibility Directive 2014/30/EU	☒	EN 55012:2007/A1:2009
		☒	EN 61000-6-1:2007
		☒	EN 61000-6-2:2005

DESCRIPTION OF WATERCRAFT

Craft Identification Number : starting from USY AMA 0001 H920
Design Category : C ☒ D ☐
Model name / Commercial name : ER1050-V / EXR

DESCRIPTION OF ENGINE

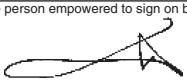
Model Name:	**Fuel Type:**	**Combustion Cycle:**
6GY	Petrol	4 stroke

ESSENTIAL REQUIREMENTS

Essential requirements	Standards	Other normative document / method	Technical file	Please specify in more detail (* = mandatory standard)
Annex I.A Design and construction	☒*	☐	☒	*EN ISO 13590:2003 *EN ISO 13590:2003/AC:2004
Annex I.B Exhaust emission	☒*	☐	☒	*EN ISO 18854:2015
Annex I.C Noise emission	☒*	☐	☒	*EN ISO 14509-1:2008

This declaration of conformity is issued under the sole responsibility of the manufacturer. I declare on behalf of the manufacturer that the PWCs mentioned above comply with all applicable essential requirements in the way specified.

Name / Title: T. Ibata / Director, Boat Section
(identification of the person empowered to sign on behalf of the manufacturer)

Signature: 

Date and place of issue: August 1st, 2019, Shizuoka, Japan

Important manual information

EJU30193

To the owner/operator

Thank you for choosing a Yamaha watercraft. This owner's/operator's manual contains information you will need for proper operation, maintenance, and care. If you have any questions about the operation or maintenance of your watercraft, please consult a Yamaha dealer.

This manual is not a course on boating safety or seamanship. If this is your first watercraft, or if you are changing to a type of watercraft you are not familiar with, for your own comfort and safety, please ensure that you obtain proper training or practice before operating the watercraft by yourself. In addition, a Yamaha dealer or boating organization will be pleased to recommend local sea schools, or competent instructors.

In this manual, information of particular importance is distinguished in the following ways:

⚠ This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

EWJ00072

⚠ WARNING

A WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

ECJ00092

NOTICE

A NOTICE indicates special precautions that must be taken to avoid damage to the watercraft or other property.

TIP:

A TIP provides key information to make procedures easier or clearer.

EJU45451

Engine data recording

This model's ECM stores certain engine data to assist in the diagnosis of malfunctions and for research, statistical analysis and development purposes.

Although the sensors and recorded data will vary by model, the main data points are:

- Engine status and engine performance data

This data will be uploaded only when a special Yamaha diagnostic tool is attached to the engine, such as when maintenance checks or service procedures are performed. Engine data uploaded will be handled appropriately according to the following Privacy Policy.

Privacy Policy

https://www.yamaha-motor.eu/eu/privacy/privacy-policy.aspx

Yamaha will not disclose this data to a third party except in the following cases. In addition, Yamaha may provide engine data to a contractor in order to outsource services related to the handling of the engine data. Even in this case, Yamaha will require the contractor to properly handle the engine data we provided and Yamaha will appropriately manage the data.

- With the consent of the boat owner
- Where obligated by law
- For use by Yamaha in litigation
- For general Yamaha-conducted research purposes when the data is not related to an individual engine or owner

Important manual information

EJU40411

Because Yamaha has a policy of continuing product improvement, this product may not be exactly as described in this owner's/operator's manual. Specifications are subject to change without notice.
This manual should be considered a permanent part of this watercraft and should remain with it even if the watercraft is subsequently sold.

EJU30234

Table of contents

Table of contents

General and important labels

EJU36452

Identification numbers

Record the Primary Identification (PRI-ID) number, Craft Identification Number (CIN), and engine serial number in the spaces provided for assistance when ordering spare parts from a Yamaha dealer. Also record and keep these ID numbers in a separate place in case your watercraft is stolen.

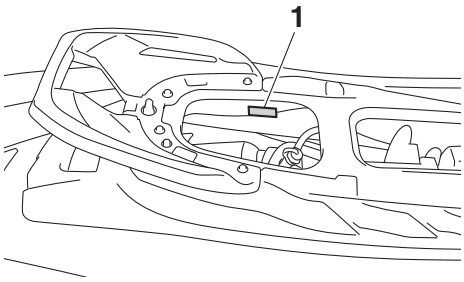
EJU30284

Primary Identification (PRI-ID) number

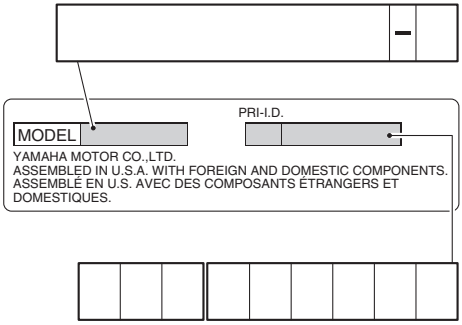
The PRI-ID number is stamped on a plate attached inside the engine compartment. (See page 36 for seat removal and installation procedures and page 40 for information on the seat storage compartment.)

MODEL:

ER1050-V (EXR)



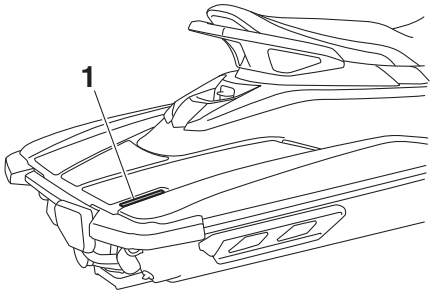
1 Primary Identification (PRI-ID) number location



EJU36551

Craft Identification Number (CIN)

The CIN is stamped on a plate attached to the aft deck.

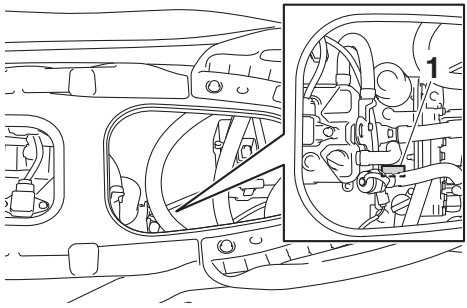


1 Craft Identification Number (CIN) location

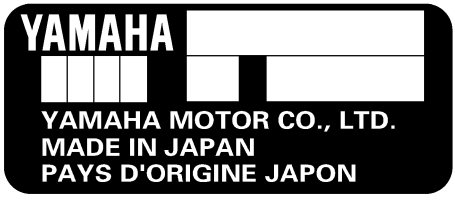
EJU44440

Engine serial number

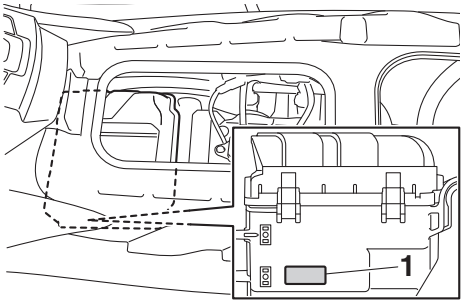
The engine serial number is stamped on a plate attached to the engine unit. (See page 36 for seat removal and installation procedures and page 40 for information on the seat storage compartment.)



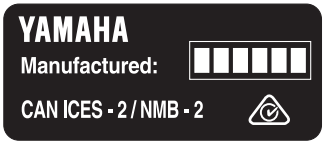
1 Engine serial number location



EJU44450
Manufactured date label
This label is attached to the port side of the air filter case. (See page 36 for seat removal and installation procedures and page 41 for information on the fire extinguisher holder.)

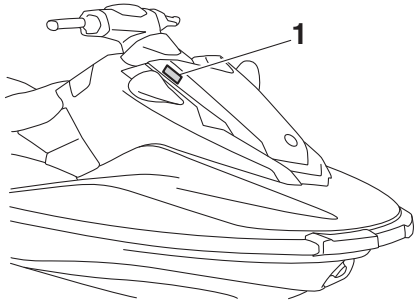


1 Manufactured date label location

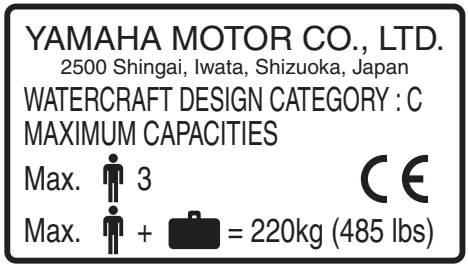


EJU30321
Model information

EJU30333
Builder's plate
Watercraft with this label conform to certain portions of the European Parliament directive relating to machinery.
Part of the information is given on the builder's plate affixed on the craft. A full explanation of this information is given in the relevant sections of this manual.



1 Builder's plate location



Design category of this personal watercraft: C

Category C:

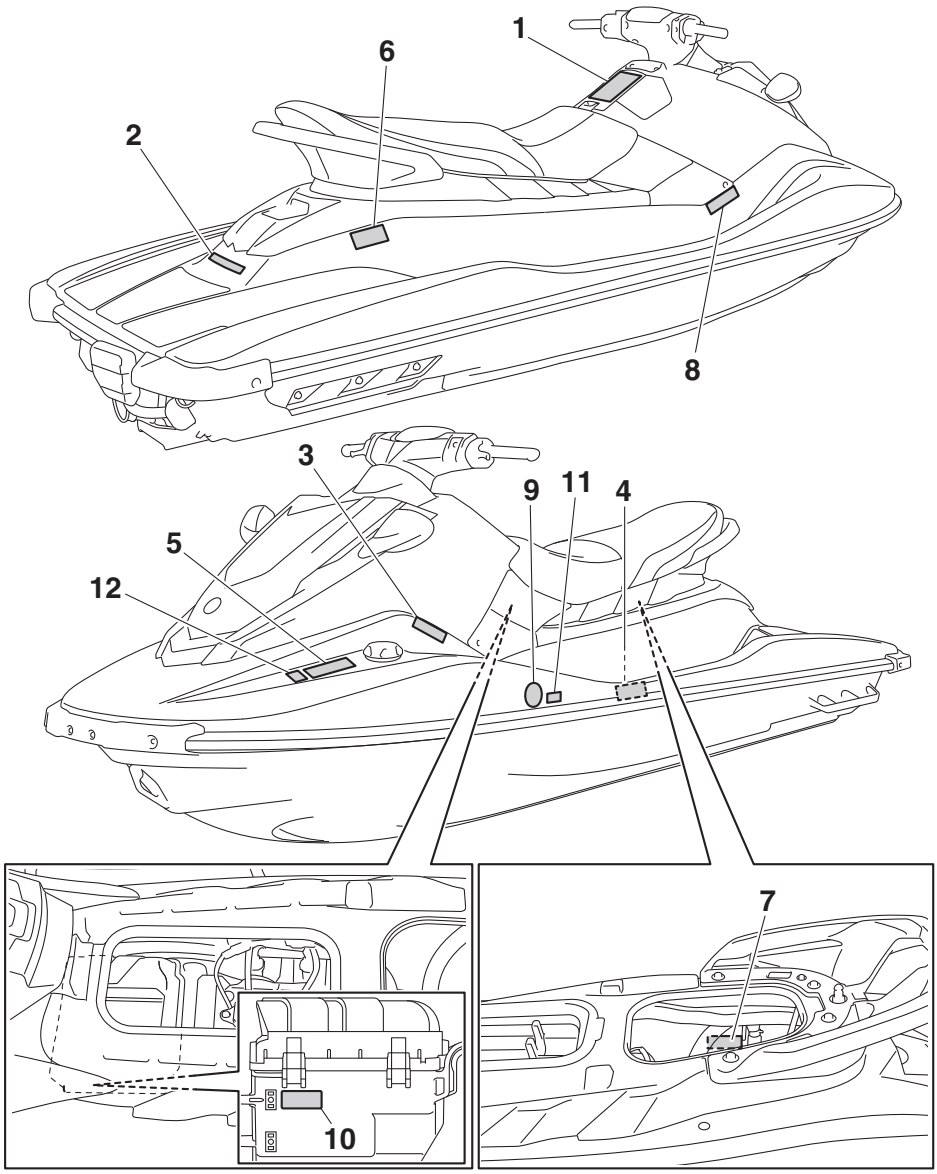
This watercraft is designed to operate in winds up to Beaufort force 6 and the associated wave heights (significant wave heights up to 2 m (6.56 ft); see the following TIP). Such conditions may be encountered in exposed inland waters, in estuaries, and in coastal waters in moderate weather conditions.

TIP:
The significant wave height is the mean height of the highest one-third of the waves, which approximately corresponds to the wave height estimated by an experienced observer. However, some waves will be double this height.

EJU30454

Important labels

Read the following labels before using this watercraft. If you have any questions, consult a Yamaha dealer.



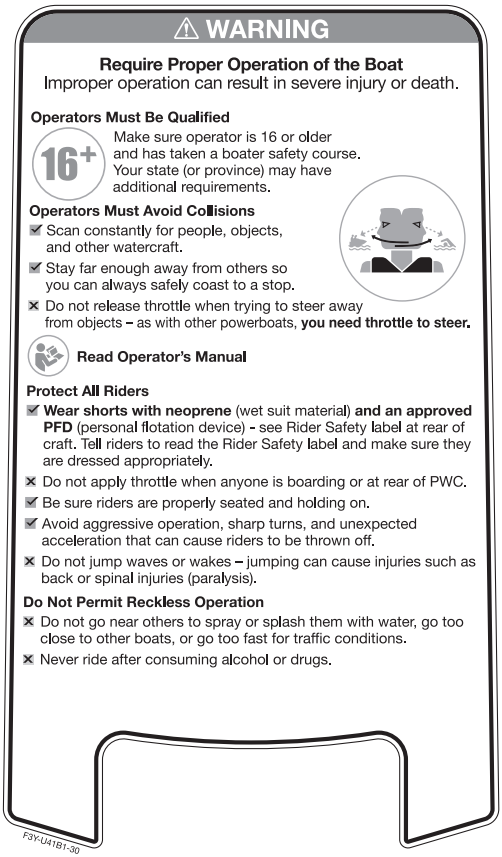
General and important labels

EJU35914

Warning labels

If any of these labels are damaged or missing, contact a Yamaha dealer for replacements.

1



2

⚠ WARNING

Falls Can Result in Severe Injury or Death

- ☑ **You must wear shorts with neoprene (wet suit material)** to keep water from being forcefully injected into rectum or vagina during a fall backward. Riders not wearing neoprene shorts have received severe rectal, vaginal, and internal injuries resulting in permanent damage.
- ☑ You must wear an approved PFD (personal flotation device).
- ☑ **Be sure you are properly seated and holding on.** Riders can be thrown off PWC during unexpected acceleration or aggressive operation.
- ☒ Never ride after consuming alcohol or drugs.

Do not ride if you are not dressed appropriately.

See Operator's Manual

RIDER SAFETY

F4E-U41E1-30

3

⚠ AVERTISSEMENT

Les chutes peuvent provoquer des blessures graves ou la mort

- ☑ **Vous devez porter des shorts avec du néoprène (matériaux pour costume mouillé)** pour empêcher l'eau d'être injectée avec force dans le rectum ou le vagin pendant une chute en arrière.Des passagers ne portant pas de shorts en néoprène ont subi des blessures rectales, vaginales et internes graves résultant en des dommages permanents.
- ☑ Vous devez porter un PFD agréé (dispositif de flottaison personnel).
- ☑ **Assurez-vous que vous êtes convenablement assis et bien agrippé.** Les passagers peuvent être jetés hors de l'embarcation pendant une accélération inattendue ou une manœuvre brusque.
- ☒ Ne conduisez jamais après avoir consommé de l'alcool ou de la drogue.

Ne conduisez pas si vous n'êtes pas vêtu de façon appropriée.

Voyez le manuel de l'utilisateur

SÉCURITÉ DES UTILISATEURS

F3V-U41B1-20

4

⚠ AVERTISSEMENT

Exigez une conduite appropriée du bateau

Un pilotage inappropriée peut entraîner des blessures graves ou la mort.

Les opérateurs doivent être qualifiés

16+

Assurez-vous que l'opérateur a au moins 16 ans et a suivi un cours de sécurité pour les bateaux.Votre État (ou province) peut imposer des exigences supplémentaires.

Les opérateurs doivent éviter les collisions

- ☑ Analyse et recherche constamment les personnes, les objets et d'autres embarcations.
- ☑ Restez à une distance suffisante des autres de sorte que vous puissiez toujours accoster en roue libre.
- ☒ Ne libérez pas l'accélérateur lorsque vous essayez de vous éloigner d'objets - comme avec d'autres bateaux à moteur, **vous devez accélérer pour vous diriger.**

Lisez le manuel de l'utilisateur

Protégez tous les utilisateurs

- ☑ **Portez des shorts avec du néoprène** (matériau de costume mouillé) **et un PFD agréé** (dispositif de flottaison personnelle) - voir l'étiquette pour la sécurité de l'utilisateur à l'arrière de l'embarcation. Dites aux passagers de lire l'étiquette de sécurité pour utilisateurs et assurez-vous qu'ils sont vêtus de manière appropriée.
- ☒ Ne pas actionner l'accélération lorsque quelqu'un embarque ou se trouve à l'arrière du bateau à moteur.
- ☑ Assurez-vous que les utilisateurs sont convenablement assis et qu'ils se tiennent aux appuis.
- ☑ Évitez les manœuvres agressives, les virages brusques et les accélérations inattendues qui pourraient provoquer la chute des usagers par-dessus bord.
- ☒ Ne sautez pas sur les vagues ou sillages - les sauts peuvent causer de blessures telles que les blessures du dos ou de la colonne vertébrales (paralysie).

Ne permettez pas une conduite imprudente

- ☒ Ne vous approchez pas des autres pour les arroser ou les éclabousser avec de l'eau, ne vous rapprochez pas trop des autres bateaux, et ne conduisez pas trop vite en fonction du trafic.
- ☒ Ne conduisez jamais après avoir consommé de l'alcool ou de la drogue.

F3V-U41B1-00

General and important labels

5

⚠ WARNING

Gasoline is highly flammable and explosive. A fire or explosion could cause severe injury or death. Shut engine off. Refuel in well ventilated area away from flames or sparks. Do not smoke. Avoid spilling gasoline. Wipe up spilled gasoline immediately. Remove all seats and compartments under the seats to ventilate fuel vapors from engine compartment before starting engine. Do not start engine if there is a fuel leak or a loose electrical connection.

REGULAR UNLEADED GASOLINE ONLY

⚠ AVERTISSEMENT

L' essence est très inflammable et explosible. Un incendie ou une explosion risquent de provoquer des blessures graves, voire mortelles. Couper le moteur. Faire le plein dans un endroit bien aéré et éloigné de toute flamme ou étincelle. Ne pas fumer. Éviter de renverser de l'essence. Essuyer immédiatement toute coulure d'essence. Retirez tous les sièges et les compartiments sous les sièges pour ventiler les vapeurs de carburant provenant du compartiment moteur avant de mettre le moteur en marche. Ne jamais mettre le moteur en marche en cas de fuite d'essence ou si un branchement électrique est desserré.

ESSENCE NORMALE SANS PLOMB UNIQUEMENT

F3Y-U415B-10

6

⚠ WARNING

Do not use cleat or grips to lift PWC. PWC could fall, which could result in severe injury.

⚠ AVERTISSEMENT

Ne pas soulever le scooter à l' aide du taquet ou des poignées. Le scooter pourrait tomber et provoquer des blessures graves.

⚠ WARNING

Do not board PWC if operator is applying throttle.

⚠ AVERTISSEMENT

Ne pas embarquer lorsque le pilote donne des gaz.

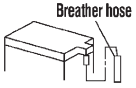
YAMAHA

F3V-U416A-10

7

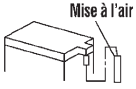
⚠ WARNING

Be sure to connect breather hose to battery. Fire or explosion could result if not connected properly.



⚠ AVERTISSEMENT

Bien veiller à brancher la durit de mise à l'air à la batterie. Un mauvais branchement risque d'être à l'origine d'un incendie ou d'une explosion.



YAMAHA

F0V-U41DB-12

EJU44221
Other labels

8

FIRE EXTINGUISHER CONTAINER
COMPARTIMENT DE L'EXTINCTEUR

F1B-U41F5-21

9

10

11

12

EJU30683

The safe use and operation of this watercraft is dependent upon the use of proper riding techniques, as well as upon the common sense, good judgment, and expertise of the operator. Before using this watercraft, make sure that its use is permitted under local laws, bylaws, and regulations, and always operate the watercraft in full conformity with any requirements and limitations imposed. Every operator should know the following requirements before riding the watercraft.

- Before operating the watercraft, read this owner's/operator's manual, the Riding Practice Guide, the Riding Instruction card, and all labels on the watercraft. These materials should give you an understanding of the watercraft and its operation.
- Never allow anyone to operate this watercraft until they too have read this owner's/operator's manual, the Riding Practice Guide, the Riding Instruction card, and all labels.

EJU30743

Limitations on who may operate the watercraft

- Make sure that the operator is 16 years of age or older and has taken a boater safety course.
  Adults must supervise use by minors.
- This watercraft is designed to carry the operator and up to 2 passengers. Never exceed the maximum load limit or allow more than 3 persons (or 2 persons if a wakeboarder or water-skier is being pulled) to ride the watercraft at any time.

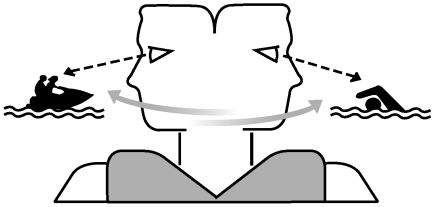
Maximum load:
220 kg (485 lb)
Load is the total weight of cargo, operator, and passengers.

- Do not operate the watercraft with any passengers on board until you have considerable practice and experience riding alone. Operating the watercraft with passengers requires more skill. Take the time to become accustomed to the handling characteristics of the watercraft before trying any difficult maneuvers.

EJU43323

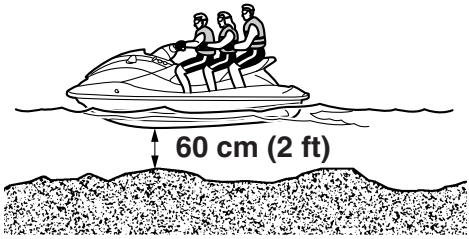
Cruising limitations

- Scan constantly for people, objects, and other watercraft. Be alert for conditions that limit your visibility or block your vision of others.

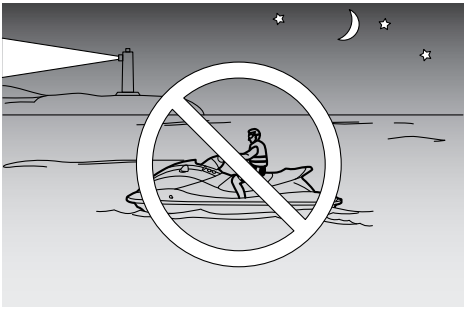


- Operate defensively at safe speeds and keep a safe distance away from people, objects, and other watercraft.
- Do not follow directly behind watercraft or other boats.
- Do not go near others to spray or splash them with water, go too close to other boats, or go too fast for the traffic conditions.
- Take early action to avoid collisions. Remember, watercraft and other boats do not have brakes. In addition, the Reverse with Intuitive Deceleration Electronics (RiDE) system is not a braking device for avoiding dangerous situations. The RiDE system is an electronic system for controlling the engine speed and reverse gate, which is located near the jet thrust nozzle. The RiDE lever located at the left handlebar grip can be used to change the direction of the jet thrust so that the watercraft moves in reverse or is in neutral. The RiDE system assists the operator when slowing down and during slow-speed maneuvering, such as launching, beaching, and docking.
- Avoid sharp turns, slowing down rapidly by squeezing the RiDE lever forcefully, and other maneuvers that make it hard for others to avoid you or understand where you are going.
- Avoid areas with submerged objects or shallow water.
- Do not release the throttle lever when trying to steer away from objects—as with other powerboats, you need throttle to steer. Always check throttle and steering controls before starting the watercraft.
- Ride within your limits and avoid aggressive maneuvers to reduce the risk of loss of control, ejection, and collision.
- This is a high performance boat—not a toy. Avoid aggressive operation, sharp turns, and unexpected acceleration that can cause you to be thrown off. Do not jump waves or wakes—jumping can cause injuries such as back or spinal injuries (paralysis), facial injuries, and broken legs, ankles, and other bones. Improper operation can result in severe injury or death.
- Do not operate the watercraft in rough water, bad weather, or when visibility is poor; this may lead to an accident causing injury or death. Be alert to the possibility of adverse weather. Take note of weather forecasts and the prevailing weather conditions before setting out on your watercraft.
- As with any water sport, you should not operate your watercraft without someone else nearby. If you operate further than swimming distance from shore, you should be accompanied by another boat or watercraft, but make sure you stay a safe distance away. It's good, common sense.
- Never operate in water that is less than 60 cm (2 ft) deep from the bottom of the wa-

tercraft, otherwise you increase your chance of hitting a submerged object, which could result in injury.



- This watercraft is not equipped with lighting required for night operation. Do not operate the watercraft after sunset or before dawn, otherwise you increase the risk of colliding with another boat, which could result in severe injury or death.

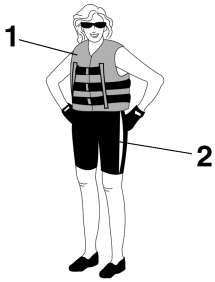


- Follow navigation rules, and state/provincial and local laws that apply to watercraft.

EJU43131

Operation requirements

- All riders must wear a personal flotation device (PFD) that is approved by the appropriate authorities and is suitable for personal watercraft use.
- Wear protective clothing. Severe internal injuries can occur if water is forced into body cavities as a result of falling into the water or being near the jet thrust nozzle. You must wear shorts with neoprene (wetsuit material) to keep water from being forcefully injected into the rectum or vagina during a fall backward. Riders not wearing neoprene shorts have received severe rectal, vaginal, and internal injuries resulting in permanent damage. Normal swimwear does not offer adequate protection.



1 Authority-approved PFD
2 Wetsuit bottom

- Eye protection is recommended to keep wind, water, and glare from the sun out of your eyes while you operate your watercraft. Restraining straps for eyewear are made which are designed to float should your eyewear fall in the water.
  Footwear and gloves are recommended.
- You must decide whether to wear a helmet while you ride for recreation. You should know that a helmet could help protect you

in certain kinds of accidents and that it could injure you in others.

A helmet is designed to provide some head protection. Although helmets cannot protect against all foreseeable impacts, a helmet might reduce your injuries in a collision with a boat or other obstacle.

A helmet may have potential safety hazards, as well. Falling into the water could risk the chance of the helmet catching water, commonly known as “bucketing”, and the resulting strain on your neck could cause choking, severe and permanent neck injuries, or death. A helmet could also increase the risk of an accident if it reduces your vision or hearing, or if it distracts you or increases your fatigue.

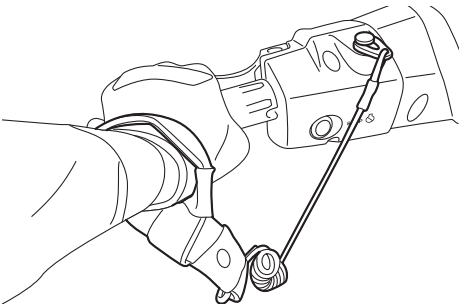
How should you decide if a helmet’s potential safety benefits outweigh its potential risks for you? Consider your particular riding conditions. Consider factors such as your riding environment and your riding style and ability. Also consider the likelihood of traffic congestion, and the water surface conditions.

If you decide to wear a helmet based upon your riding circumstances, choose one carefully. Look for a helmet designed for personal watercraft use, if possible. If you will be engaging in closed-course competition, follow the helmet requirements of the sanctioning organization.

- Never operate the watercraft after consuming alcohol or taking other drugs.
- For reasons of safety and proper care of the watercraft, always perform the pre-operation checks listed on page 50 before operating the watercraft.
- The operator should grip the handlebars firmly with both hands and the passengers should hold on firmly, either to the person in front of them or to the handgrip provided.
- The operator and passengers should always keep their feet on the floor of the footwell when the watercraft is in motion. Lifting your feet increases the chances of losing your balance, or hitting objects outside the watercraft with your feet. Do not give a ride to children if their feet cannot reach the floor of the footwell.

- Never allow a passenger to ride in front of the operator.
- Always consult your doctor on whether it is safe for you to ride this watercraft if you are pregnant or in poor health.
- Do not attempt to modify this watercraft. Modifications to your watercraft may reduce safety and reliability, and render the watercraft unsafe or illegal for use.
- Attach the engine shut-off cord (lanyard) to your left wrist and keep it free from the handlebars so that the engine stops if you, the operator, fall off. After riding, remove the engine shut-off cord (lanyard) from the wa-

tercraft to avoid accidental starting or unauthorized use by children or others.



- Scan carefully for swimmers and stay away from swimming areas. Swimmers are hard to see and you could accidentally hit someone in the water.
- Avoid being hit by another boat. You should always take the responsibility to watch for traffic; other boaters may not be watching for you. If they do not see you, or if you maneuver more quickly than other boaters expect, you risk a collision.
- Maintain a safe distance from other boats and watercraft, and also watch for ski ropes or fishing lines. Obey the “Safe boating rules” and be sure to check behind you before making a turn or slowing down. (See “Safe boating rules” on page 17.)

EJU30841

Recommended equipment

The following items should be carried on board your watercraft:

- Sound-signaling device
  You should carry a whistle or other sound-signaling device that can be used to signal other boats.
- Visual distress signals
  It is recommended that a pyrotechnic device, which is approved by the appropriate authorities, be stored in a waterproof container on your watercraft. A mirror can also be used as an emergency signal. Contact a Yamaha dealer for more information.
- Watch
  A watch is helpful so you will know how long you have been operating the watercraft.
- Towline
  A towline can be used to tow a disabled watercraft in an emergency.

EJU43620

Hazard information

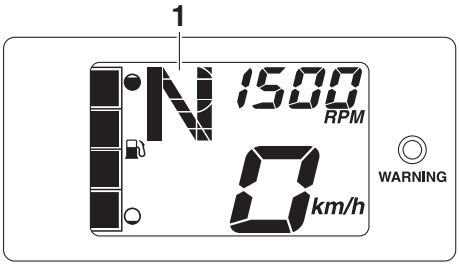
- Never start the engine or let it run for any length of time in an enclosed area. Exhaust fumes contain carbon monoxide, a colorless, odorless gas that may cause loss of consciousness and death within a short time. Always operate the watercraft in an open area.
- Do not touch the hot oil tank, muffler, or engine during or immediately after engine operation; they can cause serious burns.
- Do not place magnets or objects with a strong magnetic force near the throttle lever or RiDE lever. The electronic throttle mechanism of the levers can be adversely affected, which could cause loss of control. In addition, do not place objects susceptible to magnetic forces (i.e., credit cards, watches, etc.) close to the throttle lever or RiDE lever.

EJU42415

Watercraft characteristics

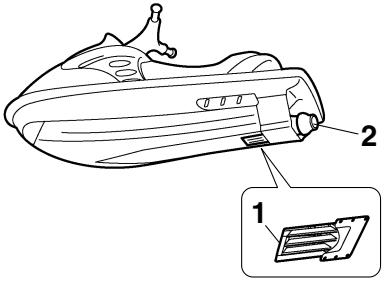
- Jet thrust turns the watercraft. Releasing the throttle lever completely produces only minimum thrust. If you are traveling at speeds above trolling, you will have rapidly decreasing ability to steer without throttle.
  This model is equipped with the Yamaha Engine Management System (YEMS) that includes an off-throttle steering (OTS) system. It will activate at planing speeds should you attempt to steer the watercraft after releasing the throttle lever. The OTS system assists in turning by continuing to supply some thrust while the watercraft is decelerating, but you can turn more sharply if you apply throttle while turning the handlebars.
  The OTS system does not function below planing speeds or when the engine is off. Once the engine slows down, the watercraft will no longer turn in response to handlebar input until you apply throttle again or you reach trolling speed.
  Practice turning in an open area without obstacles until you have a good feel for this maneuver.
- This watercraft is water-jet propelled. The jet pump is directly connected to the engine. This means that jet thrust will produce some movement whenever the engine is running and the “F” (forward) or “R” (reverse) shift indicator is displayed. When the “N” (neutral) shift indicator is displayed, the forward and reverse thrust are balanced to help keep the watercraft from moving in ei-

ther direction, although some movement may occur.



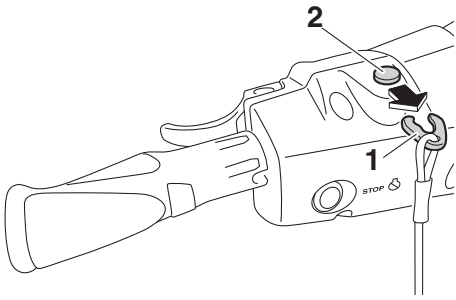
1 "N" (Neutral position)

- To avoid rear-end collisions while operating the watercraft, check behind you before using the RiDE lever to slow down or stop the watercraft. Make sure that there are no obstacles or people behind you before shifting into reverse.
- Keep away from the intake grate while the engine is on. Items such as long hair, loose clothing, or PFD straps can become entangled in moving parts, resulting in severe injury or drowning.
- Never insert any object into the jet thrust nozzle while the engine is running. Severe injury or death could result from coming in contact with the rotating parts of the jet pump.



1 Intake grate
2 Jet thrust nozzle

- Stop the engine and remove the clip from the engine shut-off switch before removing any debris or weeds, which may have collected around the jet intake.



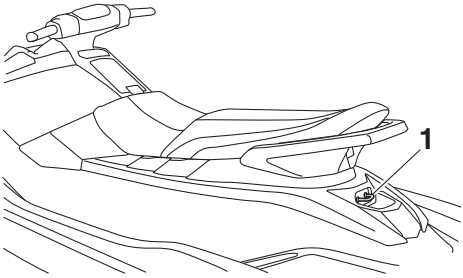
1 Clip
2 Engine shut-off switch

EJU30957

Wakeboarding and water-skiing

You can use the watercraft for wakeboarding or water-skiing if it has the seating capacity to carry the operator, a rearward-facing spotter, and the wakeboarder or water-skier when he or she is not being pulled.

The watercraft must also have a cleat designed to pull a ski rope; do not attach the rope to any other location.



1 Cleat

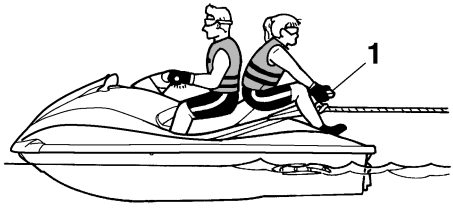
It is the watercraft operator's responsibility to be alert to the safety of the wakeboarder or water-skier and others. Know and follow all local regulations in effect for the waters in which you will be operating.

The operator should be comfortable carrying passengers before attempting to pull a wakeboarder or water-skier.

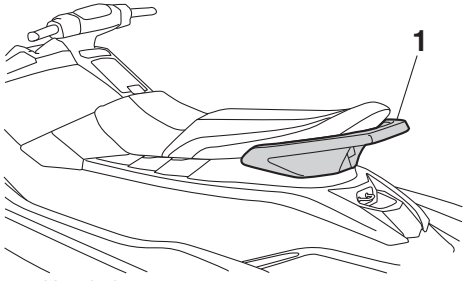
The following are some important considerations for minimizing risks while pulling a wakeboarder or water-skier.

- The wakeboarder or water-skier should wear an approved PFD, preferably a brightly colored one so boat operators can see the person being pulled.
- The wakeboarder or water-skier should wear protective clothing. Severe internal injuries can occur if water is forced into body cavities as a result of falling into the water. Normal swimwear does not adequately protect against forceful water entry into the rectum or vagina. The person being pulled should wear a wetsuit bottom or clothing that provides equivalent protection.
- A second person should be on board as a spotter to watch the wakeboarder or water-skier; in many places it is required by law. Let the person being pulled direct the operator's control of speed and direction with hand signals.

  The spotter should sit astride the rear of the seat and hold onto the handgrip with both feet firmly on the floor of the footwell for proper balance while facing to the rear to watch the wakeboarder's or water-skier's hand signals and condition.



1 Handgrip



1 Handgrip

- Your control while pulling a wakeboarder or water-skier is affected by the wakeboard-

er's or water-skier's ability, as well as water and weather conditions.

- When preparing to pull a wakeboarder or water-skier, operate the watercraft at the slowest possible speed until the watercraft is well away from the person being pulled and slack in the ski rope is taken up. Make sure that the rope is not looped around anything.
  After checking that the wakeboarder or water-skier is ready and that there is no traffic or other obstacles, apply enough throttle to raise the person.
- Make smooth, wide turns. The watercraft is capable of very sharp turns, which could exceed the abilities of the wakeboarder or water-skier. Keep the person being towed at least 50 m (164 ft), about twice the distance of a standard ski rope, away from any potential hazard.
- The operators of boats and other watercraft may not be aware that you are pulling a wakeboarder or water-skier. Together with the spotter, pay attention to others around you and cruise at safe speeds.
- Be alert to the hazard of the ski rope handle snapping back at the watercraft when the wakeboarder or water-skier falls or is unable to get up.
- Towing heavy or bulky objects other than wakeboarders or water-skiers, such as another boat or watercraft, can cause loss of steering control and create a hazardous condition. If you must tow another boat in an emergency situation, operate slowly and cautiously.

EJU30971

Safe boating rules

Your Yamaha watercraft is legally considered a powerboat. Operation of the watercraft must be in accordance with the rules and regulations governing the waterway on which it is used.

EJU30992

Enjoy your watercraft responsibly

You share the areas you enjoy when riding your watercraft with others and with nature. So your enjoyment includes a responsibility to treat these other people, and the lands, waters, and wildlife with respect and courtesy.

Whenever and wherever you ride, think of yourself as the guest of those around you. Remember, for example, that the sound of your watercraft may be music to you, but it could be just noise to others. And the exciting splash of your wake can make waves others won't enjoy.

Avoid riding close to shoreline homes and waterfowl nesting areas or other wildlife areas, and keep a respectful distance from fishermen, other boats, swimmers, and populated beaches. When travel in areas like these is unavoidable, ride slowly and obey all laws.

Proper maintenance is necessary to ensure that the exhaust emission and sound levels of your watercraft will continue to be within regulated limits. You have the responsibility to make sure that the recommended maintenance in this owner's/operator's manual is carried out.

Remember, pollution can be harmful to the environment. Do not refuel or add oil where a spill could cause damage to nature. Remove your watercraft from the water and move it away from the shoreline before refueling. Dispose of water and any fuel and oil residue in the engine compartment according to local regulations. And keep your surroundings pleasant for the people and wildlife that share the waterways: don't litter.

When you ride responsibly, with respect and courtesy for others, you help ensure that our waterways stay open for the enjoyment of a variety of recreational opportunities.

EJU43331

Watercraft glossary

Trolling speed
"Trolling" is the lowest maneuvering speed. You are applying little or no throttle. The watercraft is down in the water, and there is no wake.

Sub-planing speed
"Sub-planing" is a medium speed. The bow of the watercraft is slightly up from the water surface, but you are still traveling through the water. There is a wake.

Planing speed
"Planing" is a faster speed. The watercraft is more level and is skimming on top of the water. There is a wake.

Bow
The front end of the watercraft.

Stern
The rear end of the watercraft.

Starboard
The right side of the watercraft when facing forward.

Port
The left side of the watercraft when facing forward.

Bilge water
Water that has collected in the engine compartment.

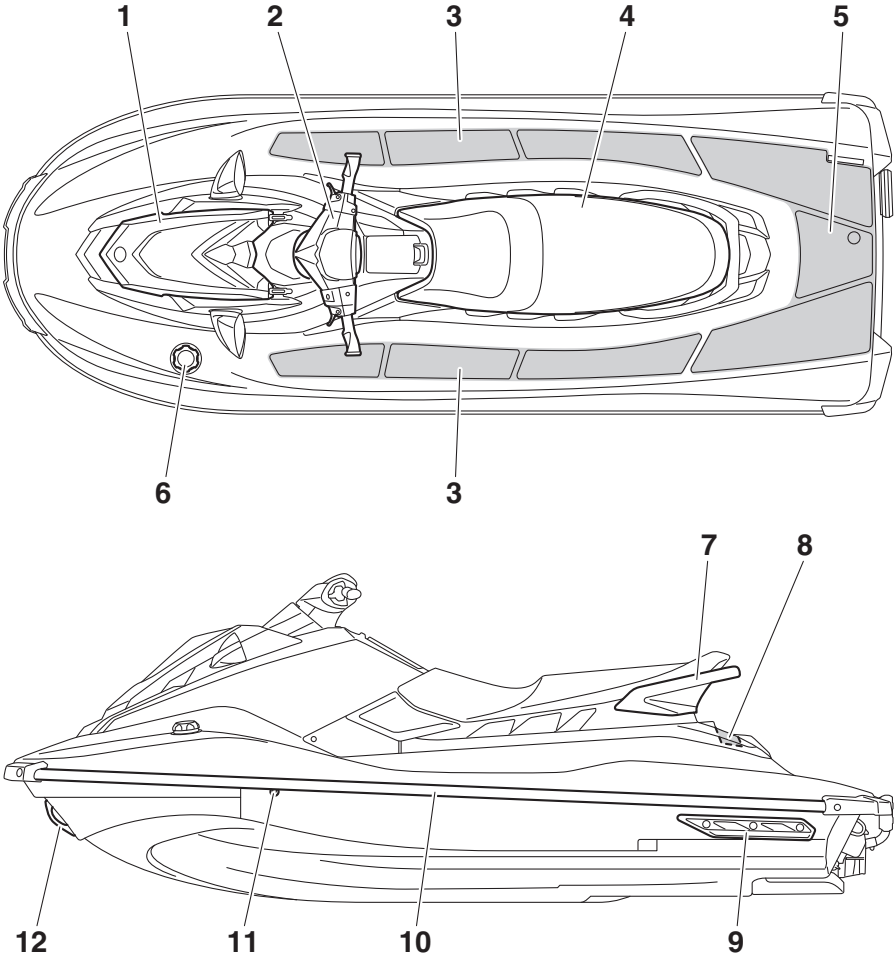
Yamaha Engine Management System (YEMS)
YEMS is an integrated, computerized management system that controls and adjusts ignition timing, fuel injection, engine diagnostics, and the off-throttle steering (OTS) system.

Reverse with Intuitive Deceleration Electronics (RiDE)
RiDE is an electronic system that controls the reverse, neutral, and deceleration operations of the watercraft.

EJU31012

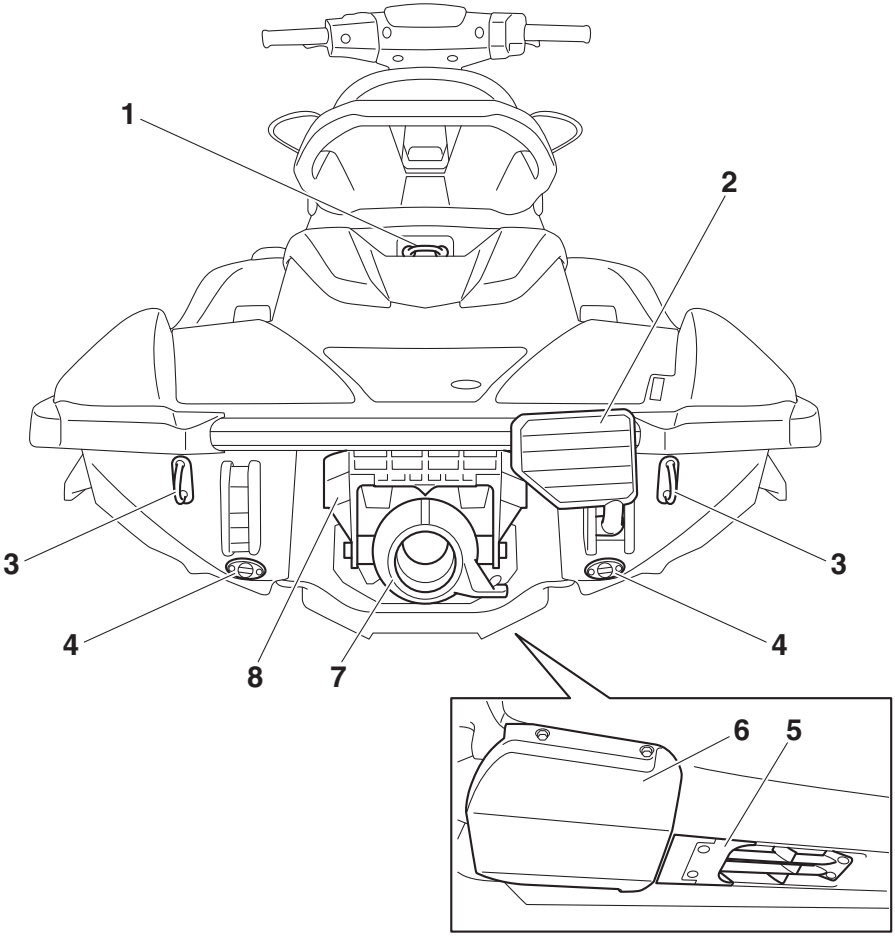
Location of main components

Exterior

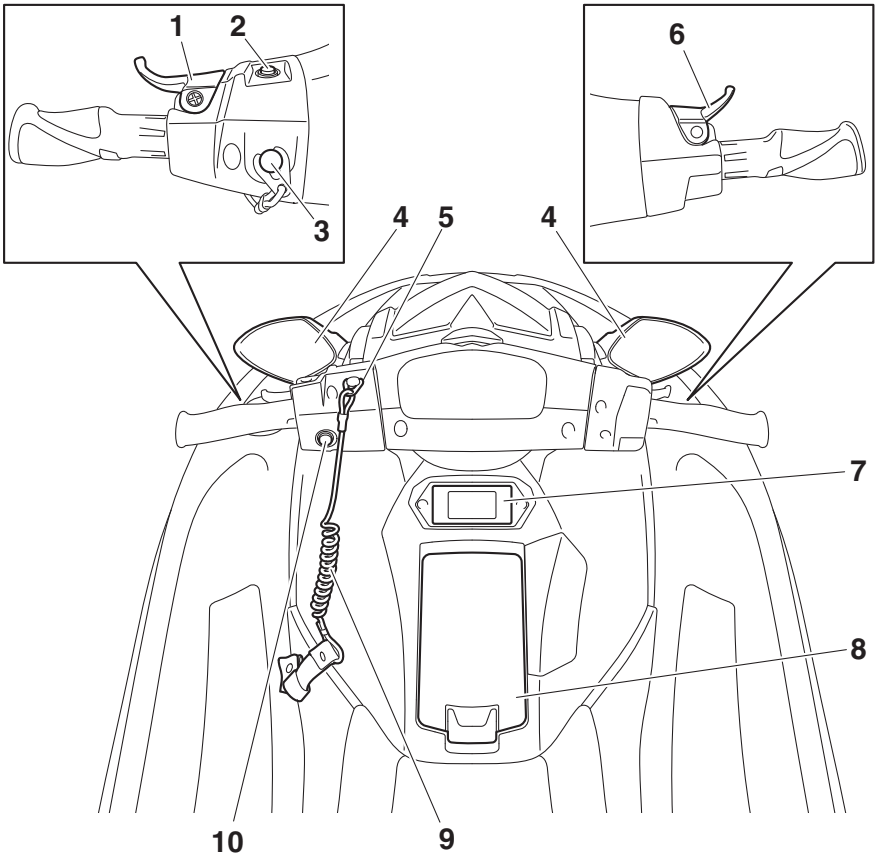


1 Hood
2 Handlebar
3 Footwell
4 Seat (page 36)
5 Boarding platform
6 Fuel filler cap (page 42)
7 Handgrip (page 36)
8 Reboarding grip (page 37)
9 Sponson
10 Gunwale
11 Cooling water pilot outlet (page 26)
12 Bow eye (page 38)

Description



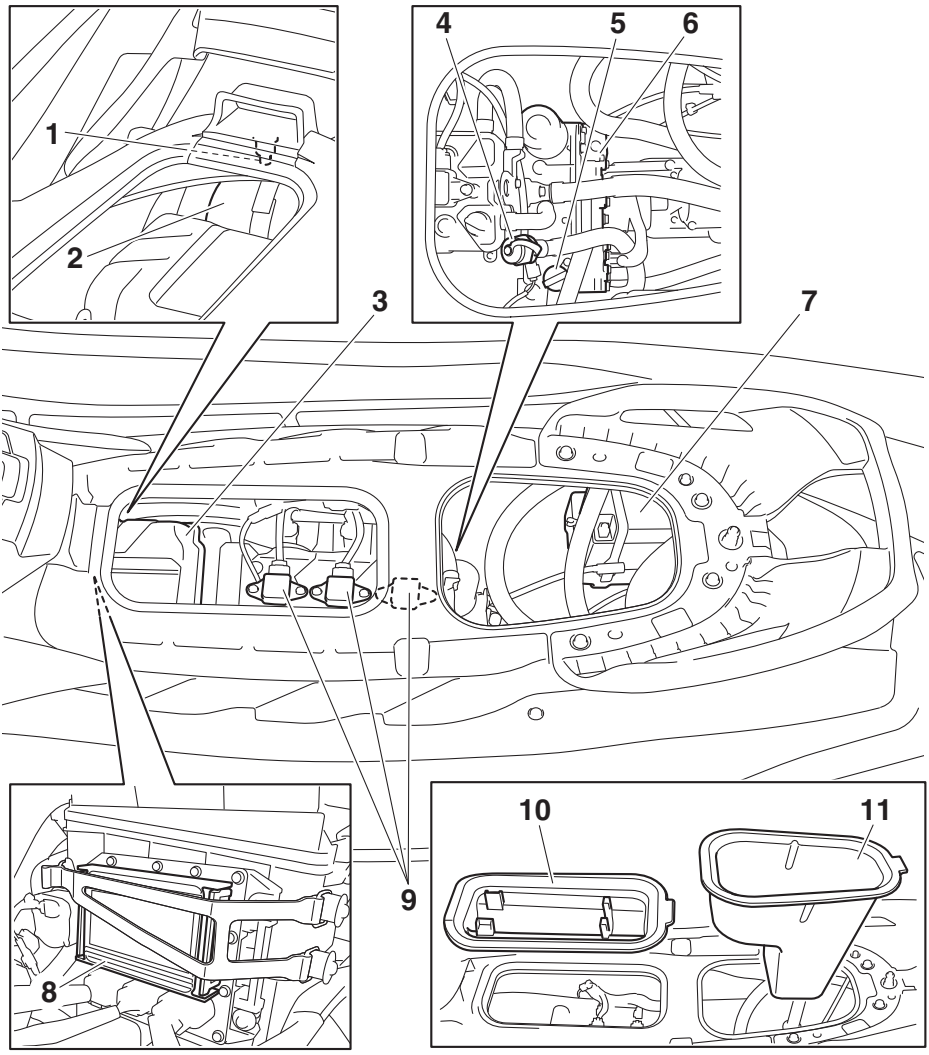
1 Cleat (page 38)
2 Reboarding step (page 37)
3 Stern eye (page 38)
4 Stern drain plug (page 46)
5 Intake grate
6 Ride plate
7 Jet thrust nozzle
8 Reverse gate (page 28)



1 RiDE lever (page 28)
2 Start switch (page 24)
3 Engine shut-off switch (page 24)
4 Rearview mirror
5 Clip (page 24)
6 Throttle lever (page 25)
7 Multifunction information center (page 31)
8 Glove compartment (page 39)
9 Engine shut-off cord (lanyard) (page 24)
10 Engine stop switch (page 24)

Description

Engine compartment

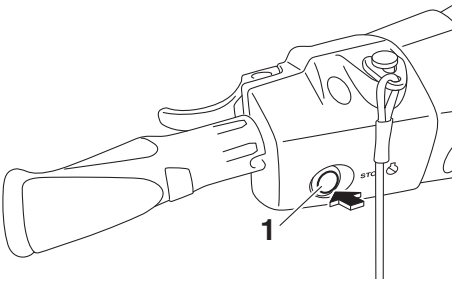


1 Water separator (page 26)
2 Fuel tank
3 Air filter case
4 Flushing hose connector (page 71)
5 Oil tank filler cap/Dipstick (page 44)
6 Oil tank
7 Battery (page 53)
8 Fuse box
9 Spark plug/Ignition coil
10 Fire extinguisher holder (page 41)
11 Seat storage compartment (page 40)

EJU31026
Watercraft control functions

EJU31153
Engine stop switch "⏻"

The engine stop switch (red button) stops the engine when the switch is pushed.

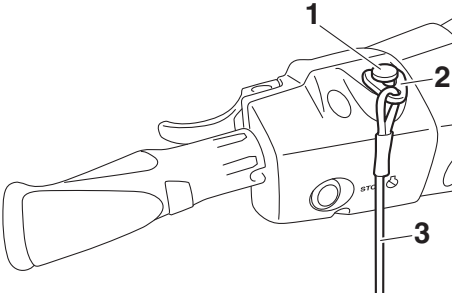


1 Engine stop switch

EJU31164
Engine shut-off switch "⚠"

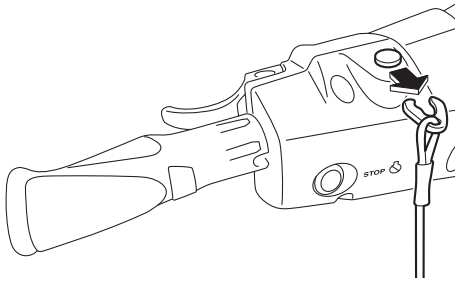
The engine shut-off switch automatically stops the engine when the clip, on the end of the engine shut-off cord (lanyard), is removed from the switch, such as if the operator falls off the watercraft.

Insert the clip under the engine shut-off switch before starting the engine.



1 Engine shut-off switch
2 Clip
3 Engine shut-off cord (lanyard)

When the engine is not running, remove the clip from the engine shut-off switch to prevent accidental starting or unauthorized operation by children or others.



EJU44350
Start switch "⏻"

ECJ01311

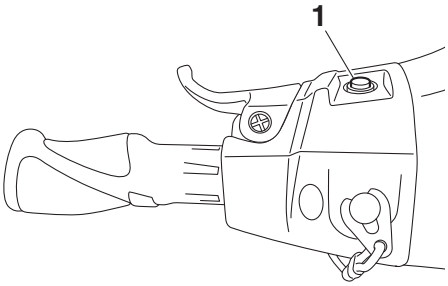
NOTICE

Do not run the engine over 4000 r/min on land. Also, do not run the engine for more than 15 seconds without supplying water, otherwise the engine could overheat.

The start switch (green button) starts the engine when the switch is pushed.

Release the start switch as soon as the engine starts to run. If the engine does not start in 5 seconds, release the start switch, wait 15 seconds, and then try again. ***NOTICE:*** **Never push the start switch while the engine is running. Do not operate the start switch for more than 5 seconds, otherwise the battery will be discharged and the engine**

will not start. Also, the starter motor could be damaged. [ECJ01041]



1 Start switch

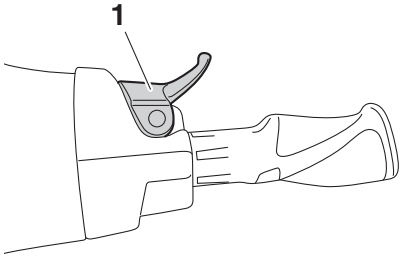
The engine will not start under any of the following conditions:

- Clip is removed from the engine shut-off switch.
- Throttle lever is squeezed.
- Throttle lever is malfunctioning.
- RiDE lever is squeezed.
- RiDE lever is malfunctioning.

EJU31212

Throttle lever

The throttle lever increases the engine speed when the lever is squeezed.



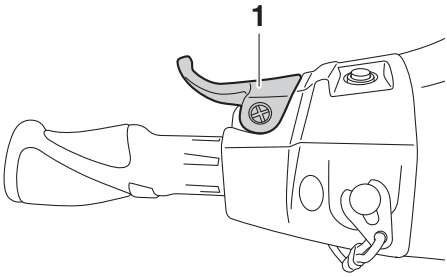
1 Throttle lever

The throttle lever returns automatically to its fully closed (idle) position when released.

EJU43342

RiDE lever

When the RiDE lever is squeezed, the reverse gate lowers and the watercraft starts moving in reverse. If the watercraft is moving forward, the watercraft gradually slows down until it stops, and then the watercraft starts moving in reverse.



1 RiDE lever

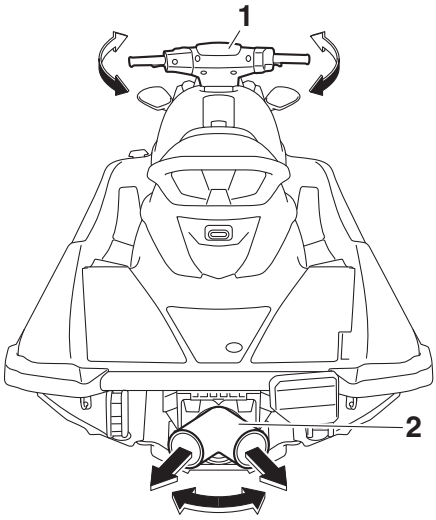
When the RiDE lever is released, it automatically returns to its fully closed (idle) position and the reverse gate moves to the neutral position.

EJU31262

Steering system

By turning the handlebars in the direction you wish to travel, the angle of the jet thrust noz-

zle is changed, and the direction of the watercraft is changed accordingly.



1 Handlebar
2 Jet thrust nozzle

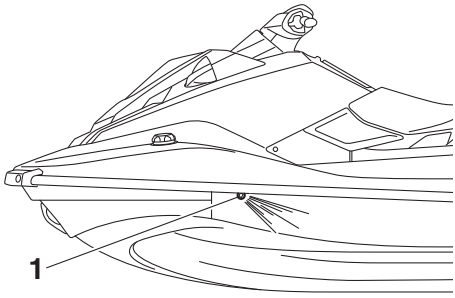
Since the strength of the jet thrust determines the speed and degree of a turn, throttle must always be applied when attempting a turn, except at trolling speed.

This model is equipped with the Yamaha Engine Management System (YEMS) that includes an off-throttle steering (OTS) system. It will activate at planing speeds should you attempt to steer the watercraft after releasing the throttle lever. The OTS system assists in turning by continuing to supply some thrust while the watercraft is decelerating, but you can turn more sharply if you apply throttle while turning the handlebars. The OTS system does not function below planing speeds or when the engine is off. Once the engine slows down, the watercraft will no longer turn in response to handlebar input until you apply throttle again or you reach trolling speed.

EJU35975

Cooling water pilot outlet

When the engine is running, some of the cooling water that is circulated in the engine is discharged from the cooling water pilot outlet.



1 Cooling water pilot outlet

There is a cooling water pilot outlet on the port (left) side of the watercraft. To check for proper operation of the cooling system, make sure that water is being discharged from the cooling water pilot outlet. If water is not being discharged from the outlet, stop the engine and check the jet intake for clogging. (See page 85 for information on the jet intake.)

TIP:

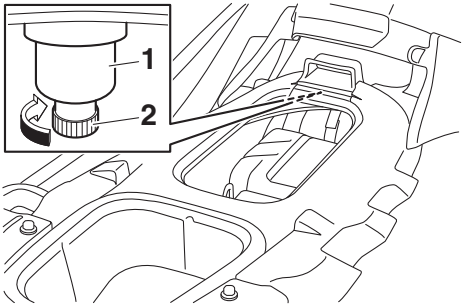
- It will take about 60 seconds for the water to reach the outlet after the engine is started.
- Water discharge may not be constant when the engine is running at idling speed. If this occurs, apply a little throttle to make sure that water discharges properly.

EJU40323

Water separator

The water separator prevents water from entering the fuel tank by collecting any water that has entered the fuel tank breather hose if the watercraft was capsized.

If water has collected in the water separator, drain it by loosening the drain screw.



1 Water separator
2 Drain screw

To drain water from the water separator:

(1) Place a drain pan or dry cloth under the water separator.
(2) Gradually loosen the drain screw to drain the water. Catch the draining water in the drain pan or soak it up with the dry cloth so that it does not spill into the engine compartment. If any water spills into the watercraft, be sure to wipe it up with a dry cloth.
(3) Securely tighten the drain screw until it stops.

EJU40014
Watercraft operation functions

EJU43154
Shift system

EWJ01773
⚠ WARNING

- **Make sure that there are no obstacles or people behind you before shifting into reverse.**
- **Do not touch the reverse gate while the RiDE lever is being operated, otherwise you could be pinched.**
- **If the RiDE lever and throttle lever are being operated at the same time, do not release only the RiDE lever. Otherwise, the watercraft could accelerate more quickly than expected, which may lead to an accident.**

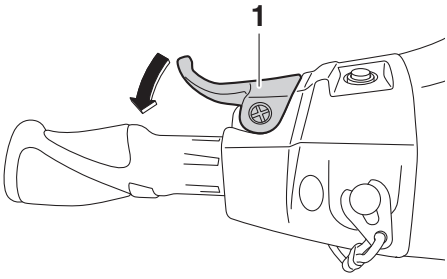
The RiDE lever and throttle lever can be operated to change the forward or rearward movement of the watercraft only when the engine is running. When the RiDE lever is squeezed, the reverse gate lowers and deflects the water jet being discharged from the jet thrust nozzle so that the watercraft moves in reverse or is in neutral. When the throttle lever is squeezed, the reverse gate rises and the watercraft moves forward.

TIP:

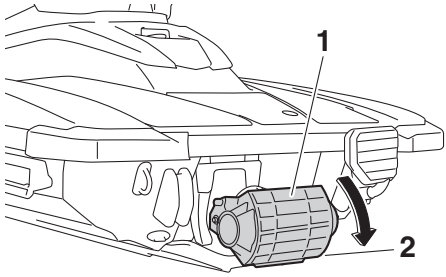
- This model is equipped with a function which limits the engine speed in reverse.
- When the engine is started, the reverse gate automatically moves to the neutral position.

To shift into reverse:

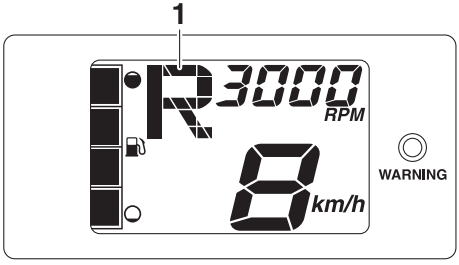
(1) Release the throttle lever.
(2) Squeeze the RiDE lever. The reverse gate will lower, the engine speed will increase, the watercraft will start moving in reverse, and the "R" (reverse) shift indicator will be displayed.



1 RiDE lever



1 Reverse gate
2 Reverse position

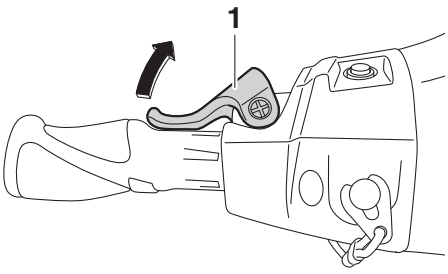


1 "R" (Reverse position)

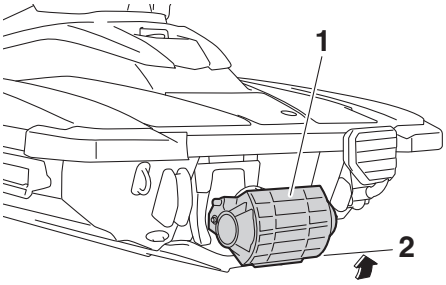
To shift into neutral from reverse:

Release the RiDE lever. The reverse gate will automatically return to the neutral position

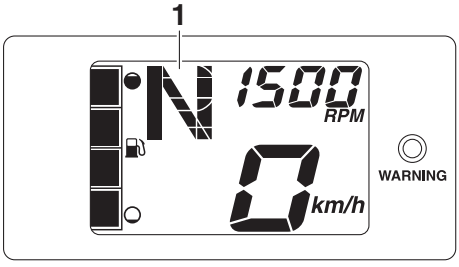
and the “N” (neutral) shift indicator will be displayed.



1 RiDE lever



1 Reverse gate
2 Neutral position

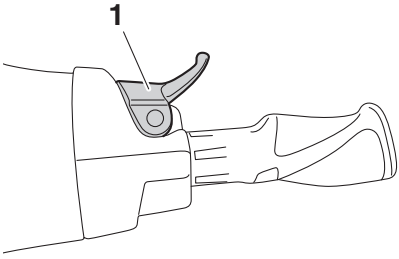


1 “N” (Neutral position)

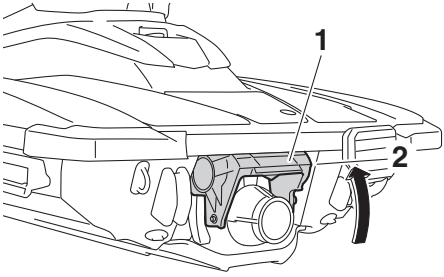
TIP:
Although the neutral position helps keep the watercraft from moving even when the engine is running, some movement may occur.

To shift into forward:

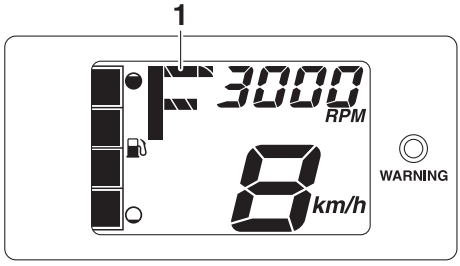
(1) Release the RiDE lever.
(2) Squeeze the throttle lever. The reverse gate will rise completely, the engine speed will increase, the watercraft will start moving forward, and the “F” (forward) shift indicator will be displayed.



1 Throttle lever

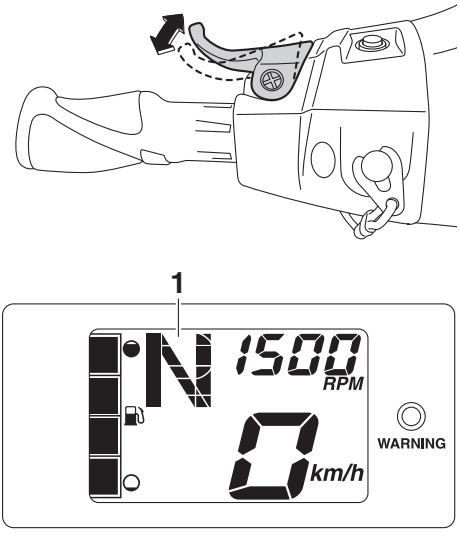


1 Reverse gate
2 Forward position



1 “F” (Forward position)

TIP:
If the RiDE lever is squeezed while the throttle lever is squeezed, the watercraft will slow down, and once stopped, move in reverse.
To shift into neutral from forward:
(1) Release the throttle lever.
(2) Lightly squeeze and release the RiDE lever. The “N” (neutral) shift indicator will be displayed.



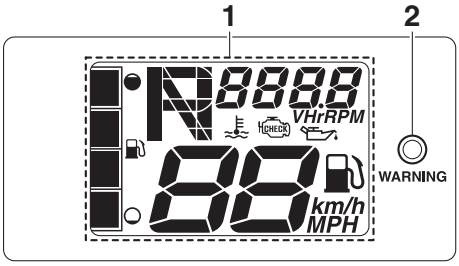
1 “N” (Neutral position)

TIP:
If the RiDE lever is squeezed continuously, the reverse gate will move to the reverse position.

EJU44570

Multifunction information center

The multifunction information center displays various watercraft information.



1 Information display
2 "WARNING" indicator light

Multifunction information center initial operation

When the multifunction information center is activated, all of the display segments come on. After 2 seconds, the warning indicators in the information display go off, and then the center starts to operate normally.

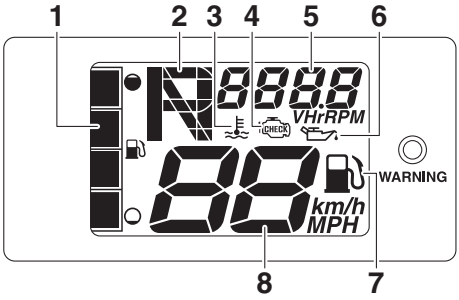
Multifunction information center standby state

If the multifunction information center does not receive any operation input within 30 seconds after the engine stops, the center will turn off and enter a standby state. When the engine is started again, the displays return to their state before the center turned off, and then the center starts to operate normally.

EJU35027

Information display

The information display shows watercraft operating conditions.

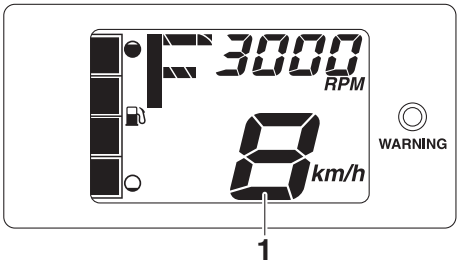


1 Fuel level meter
2 Shift indicator
3 Engine overheat warning indicator
4 Check engine warning indicator
5 Tachometer / hour meter / voltmeter
6 Oil pressure warning indicator
7 Fuel level warning indicator
8 Speedometer

EJU43832

Speedometer

The speedometer shows the watercraft speed against water.

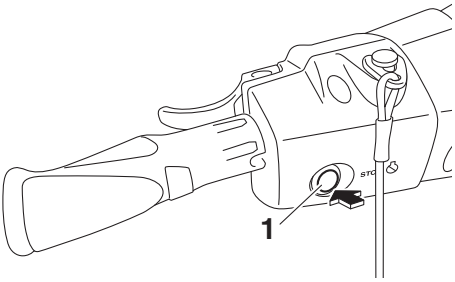


1 Speedometer

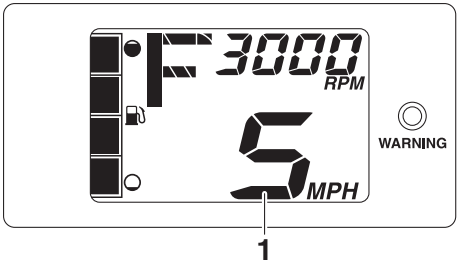
By switching the display units, the speed can be shown in kilometers per hour "km/h" or miles per hour "MPH".

TIP:
"MPH" is selected as the display unit at the Yamaha factory.

To switch the speedometer display units:
Start the engine, stop the engine, and then push the engine stop switch 3 times, pushing the switch for 0.4 seconds or more each time, before the multifunction information center turns off. The speedometer display units change.
To switch the speedometer display units again, repeat this procedure.

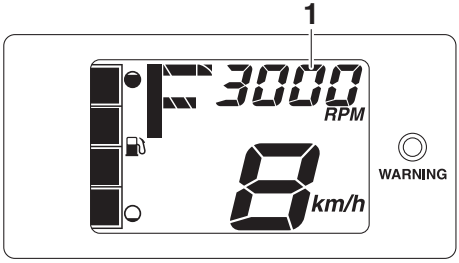


1 Engine stop switch



1 Speedometer

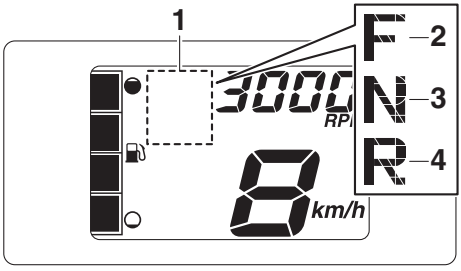
EJU44650
Tachometer
The tachometer shows the engine speed.



1 Tachometer

TIP:
While the engine is stopped, the battery voltage and the total engine hours are displayed alternately.

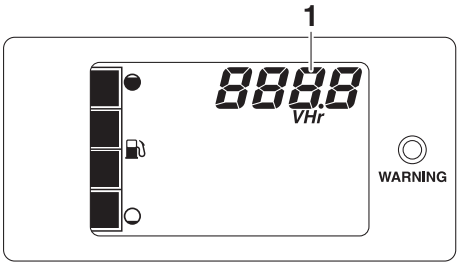
EJU43891
Shift indicator
This indicator shows the reverse gate shift positions: “F” (forward), “N” (neutral), and “R” (reverse). (See page 28 for shifting procedures.)



1 Shift indicator
2 “F” (Forward position)
3 “N” (Neutral position)
4 “R” (Reverse position)

EJU44700
Hour meter and voltmeter
The hour meter and voltmeter are displayed in the tachometer portion of the information display while the engine is stopped.

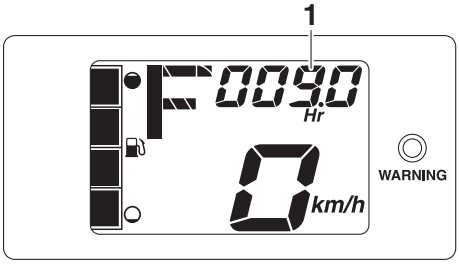
The hour meter and voltmeter are displayed alternately at 3-second intervals.



1 Hour meter and voltmeter

TIP:
If the engine is stopped after the check engine warning is activated, the hour meter and error code will be displayed alternately at 3-second intervals.

Hour meter
The hour meter shows the total number of hours that the engine has been running since the watercraft was new.

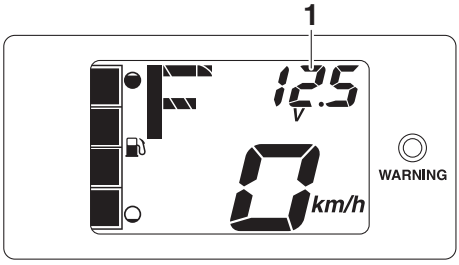


1 Hour meter

TIP:
The elapsed time will be kept even if the battery terminals have been disconnected.

Voltmeter
The voltmeter shows the battery voltage. When the battery voltage is normal, the voltmeter displays approximately 12 volts.

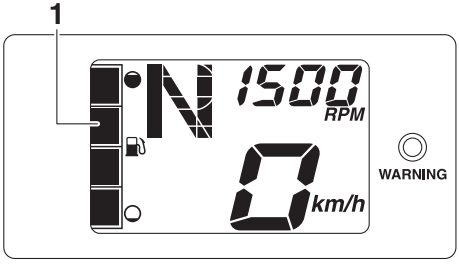
If the battery voltage has dropped significantly, "Lo" is displayed on the voltmeter, and all other display segments of the information display turn off. If the battery voltage has risen significantly, "HI" is displayed. If "Lo" or "HI" is displayed, immediately return to shore and have a Yamaha dealer service the watercraft.



1 Voltmeter

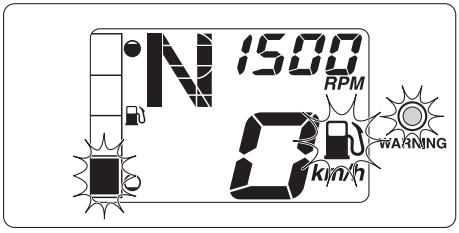
EJU37272
Fuel level meter
The fuel level meter shows the amount of fuel remaining in the fuel tank. The amount of remaining fuel is shown using four display segments, which disappear one at a time as the fuel level decreases.

TIP:
The accuracy of the fuel level meter varies depending on the operating conditions. Use this function as a reference only.



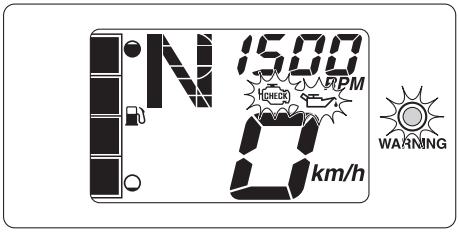
1 Fuel level meter

EJU44710
Fuel level warning
If the fuel remaining in the fuel tank drops to about 8 L (2.1 US gal, 1.8 Imp.gal), the lowest fuel level segment, the fuel level warning indicator, and the “WARNING” indicator light blink, and the buzzer sounds intermittently for 30 seconds.



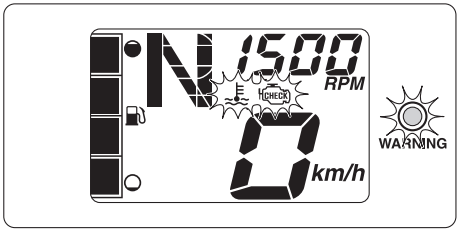
If the fuel level warning is activated, refill the fuel tank as soon as possible. (See page 42 for information on filling the fuel tank.)
After the fuel tank is refilled, the warning signals will be cleared when the engine is restarted.

EJU43720
Oil pressure warning
If the oil pressure drops significantly, the oil pressure warning indicator, the check engine warning indicator, and the “WARNING” indicator light blink, and the buzzer sounds intermittently for 30 seconds. At the same time, the maximum engine speed is limited.



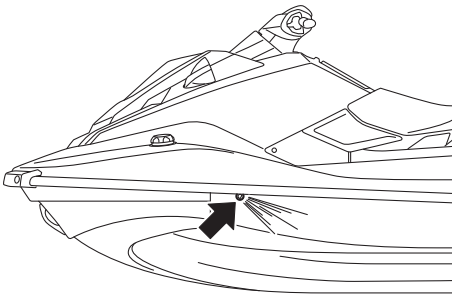
If the oil pressure warning is activated, immediately reduce the engine speed, return to shore, and then check the engine oil level. (See page 44 for information on checking the engine oil level.) If the oil level is sufficient, have a Yamaha dealer check the watercraft.

EJU43901
Engine overheat warning
If the engine temperature rises significantly, the engine overheat warning indicator, the check engine warning indicator, and the “WARNING” indicator light blink, and the buzzer sounds intermittently. After 5 seconds, the engine overheat warning indicator and the “WARNING” indicator light stop blinking and remain on, and the buzzer sounds continuously. After 30 seconds, the buzzer stops. While the engine overheat warning is activated, the maximum engine speed is limited.



If the engine overheat warning is activated, immediately reduce the engine speed, return to shore, and then make sure that water is being discharged from the cooling water pilot outlet while the engine is running. If there is no discharge of water, stop the engine, and then check the jet intake for clogging. (See page 85 for information on the jet intake.)
NOTICE: **If you cannot locate and correct the cause of the overheating, consult a Yamaha dealer. Continuing to operate at**

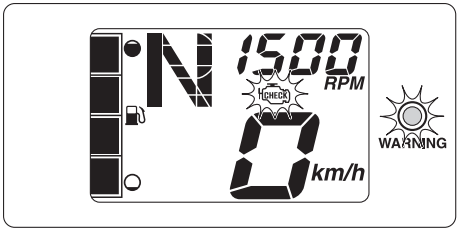
higher speeds could result in severe engine damage. [ECJ00042]



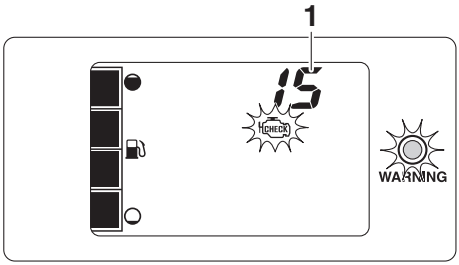
EJU44690

Check engine warning

If a sensor malfunction or a short circuit is detected, the check engine warning indicator and the “WARNING” indicator light blink, and the buzzer sounds intermittently for 30 seconds.



If the engine is stopped after the check engine warning is activated, the tachometer portion of the information display will show the hour meter and error code alternately at 3-second intervals.



1 Error code

If the check engine warning is activated, immediately reduce the engine speed, return to shore, and have a Yamaha dealer check the engine.

EJU40335

Equipment

EJU44600

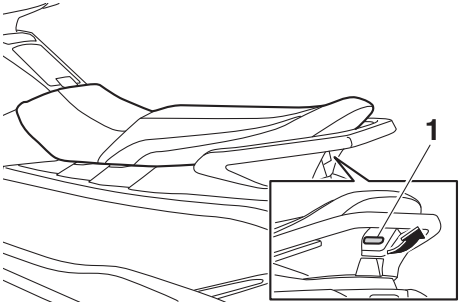
Seat

The seat is removable.

Remove the seat to access the fire extinguisher holder, seat storage compartment, and engine compartment.

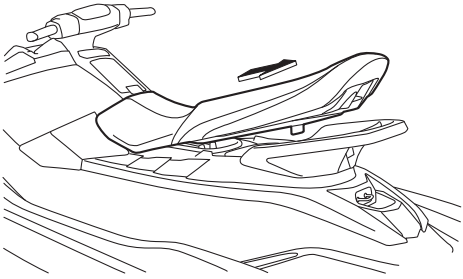
To remove the seat:

(1) Pull the seat latch up, and then lift up the rear of the seat.



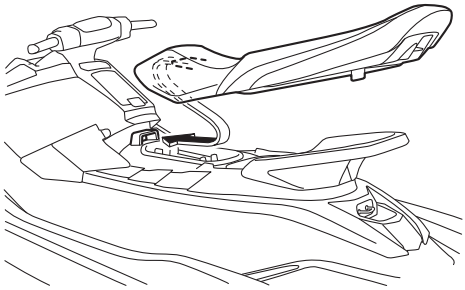
1 Seat latch

(2) Pull the seat rearward and remove it.

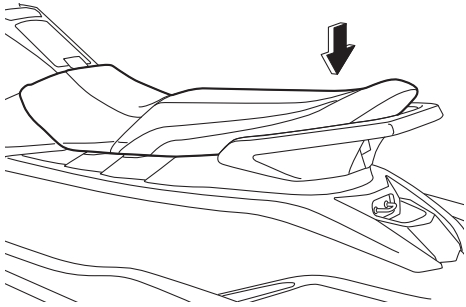


To install the seat:

(1) Insert the projection on the front of the seat into the stay on the deck.



(2) Push the rear of the seat down to securely lock it in place.

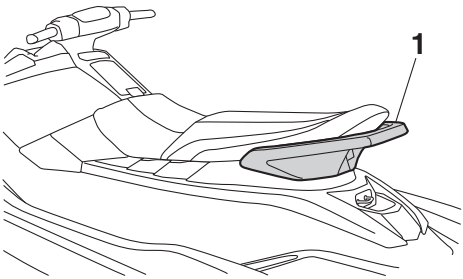


EJU31364

Handgrip

The handgrip is used when boarding the watercraft from the water and when the spotter is facing rearward. **WARNING! Do not use the handgrip to lift the watercraft. The handgrip is not designed to support the watercraft's weight. If the handgrip**

breaks, the watercraft could fall, which could result in severe injury. [EWJ00022]

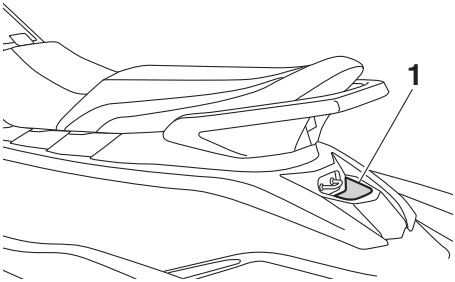


1 Handgrip

EJU37382

Reboarding grip

The reboarding grip is used when boarding the watercraft from the water.



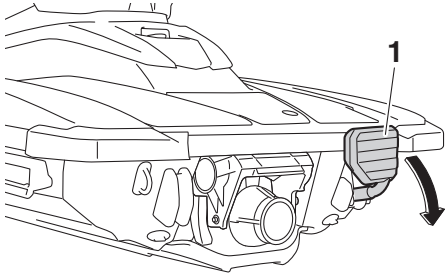
1 Reboarding grip

EJU34865

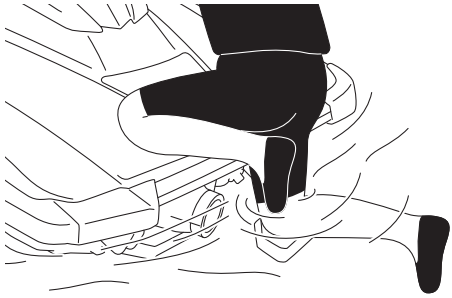
Reboarding step

The reboarding step is used to assist in reboarding the watercraft from the water.

When boarding the watercraft, push the reboarding step down until it stops. The step returns automatically to its original position when released. **WARNING! Do not use the reboarding step to lift the watercraft. The reboarding step is not designed to support the watercraft's weight. If the reboarding step breaks, the watercraft could fall, which could result in severe injury.** [EWJ01212]



1 Reboarding step

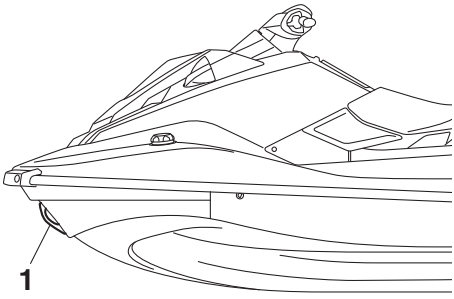


ECJ00743

NOTICE

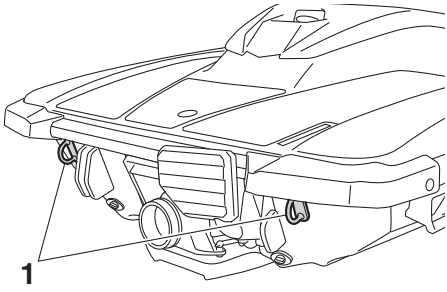
Use the reboarding step only to board the watercraft in the water. Do not use the reboarding step for any other purpose. The watercraft can be damaged.

EJU34873
Bow eye
The bow eye is used to attach a rope to the watercraft when transporting, mooring, or towing it in an emergency. (See page 87 for information on towing the watercraft.)



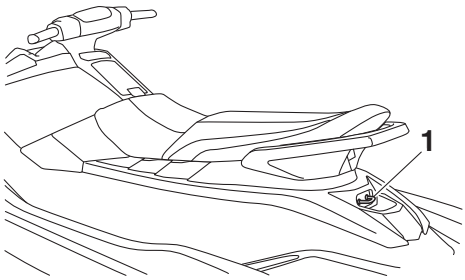
1 Bow eye

EJU34882
Stern eyes
The stern eyes are used to attach a rope to the watercraft when transporting or mooring it.



1 Stern eye

EJU40423
Cleat
The cleat is used to attach a ski rope to the watercraft when pulling a wakeboarder or water-skier. **WARNING! Do not use the cleat to lift the watercraft. The cleat is not designed to support the watercraft's weight. If the cleat breaks, the watercraft could fall, which could result in severe injury.** [EWJ01511]



1 Cleat

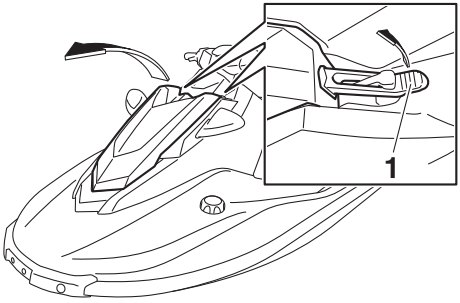
EJU31685
Storage compartments
This watercraft is equipped with the following storage compartments.

The storage compartments are not designed to be waterproof. If you carry objects that must be kept dry, put them in a waterproof bag.

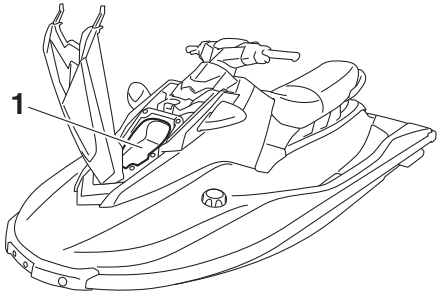
Make sure that the storage compartments are closed securely before operating the watercraft.

EJU44660
Bow storage compartment
The bow storage compartment is located under the hood.

To open the bow storage compartment:
Unhook the hood latches, and then lift up the rear of the hood.



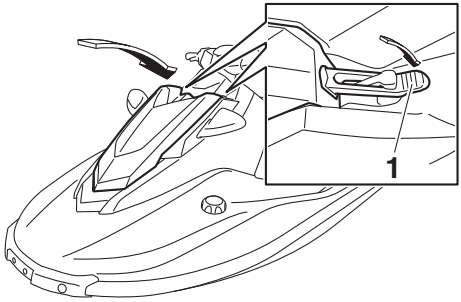
1 Hood latch



1 Bow storage compartment

Bow storage compartment:
Capacity:
7.0 L (1.8 US gal, 1.5 Imp.gal)
Load limit:
2.0 kg (4 lb)

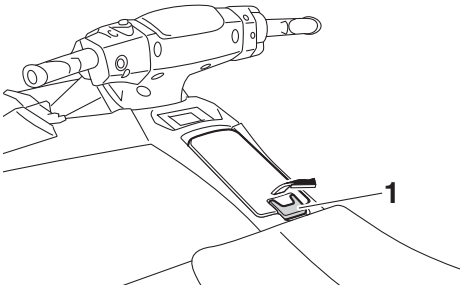
To close the bow storage compartment:
Return the hood to its original position, and then hook the hood latches to secure it in place.



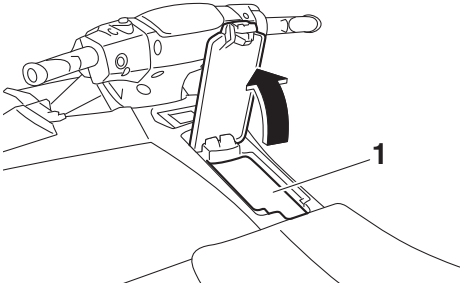
1 Hood latch

EJU43781
Glove compartment
The glove compartment is located in front of the seat.

To open the glove compartment:
Pull the glove compartment latch up, and then lift up the lid.



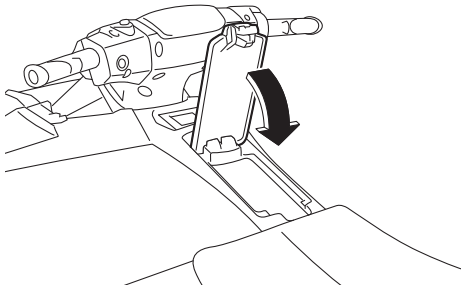
1 Glove compartment latch



1 Glove compartment

Glove compartment:
Capacity:
14.0 L (3.7 US gal, 3.1 Imp.gal)
Load limit:
3.0 kg (7 lb)

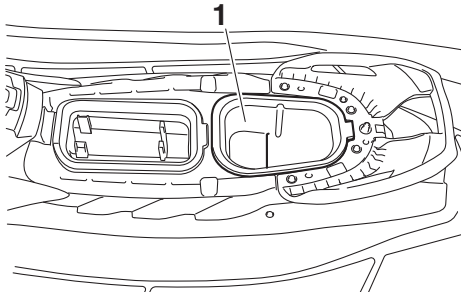
To close the glove compartment:
Push the lid down to securely lock it in place.



EJU44491

Seat storage compartment

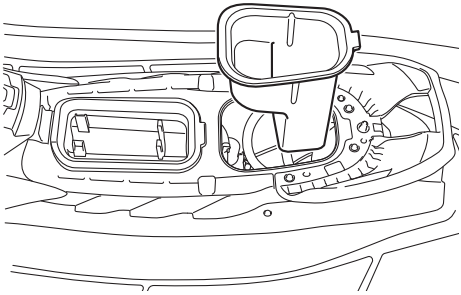
The seat storage compartment is located under the seat. (See page 36 for seat removal and installation procedures.)



1 Seat storage compartment

Seat storage compartment:
Capacity:
8.0 L (2.1 US gal, 1.8 Imp.gal)
Load limit:
3.0 kg (7 lb)

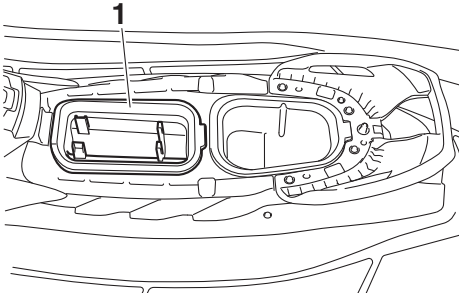
The storage compartment is removable.



EJU44501

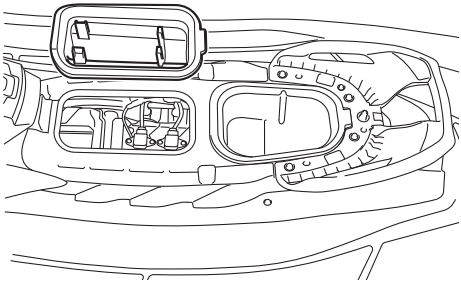
Fire extinguisher holder

The fire extinguisher holder is located under the seat. (See page 36 for seat removal and installation procedures.)



1 Fire extinguisher holder

The fire extinguisher holder is removable.



EJU31823

Fuel requirements

EJU44880

Fuel

EWJ00283

⚠ WARNING

- **Gasoline and gasoline vapors are extremely flammable. To avoid fires and explosions and to reduce the risk of injury when refueling, follow these instructions.**
- **Gasoline is poisonous and can cause injury or death. Handle gasoline with care. Never siphon gasoline by mouth. If you should swallow some gasoline, inhale a lot of gasoline vapor, or get some gasoline in your eyes, see your doctor immediately. If gasoline spills on your skin, wash with soap and water. If gasoline spills on your clothing, change your clothes.**

ECJ00322

NOTICE

- **Do not use leaded gasoline. Leaded gasoline can seriously damage the engine.**
- **Avoid getting water and contaminants in the fuel tank. Contaminated fuel can cause poor performance and engine damage. Use only fresh gasoline that has been stored in clean containers.**

Recommended fuel:
Regular unleaded gasoline with a minimum octane rating of
86
(Pump octane number) = (R + M)/2
90 (Research octane number)

TIP:

- This mark identifies the recommended fuel for this watercraft as specified by European regulation (EN228).
- Check that gasoline nozzle has the same identifier when fueling.

Gasohol

There are two types of gasohol: gasohol containing ethanol and that containing methanol. Gasohol containing ethanol can be used if ethanol content does not exceed 10% and the fuel meets the minimum octane ratings. E-85 is a fuel blend containing 85% ethanol and therefore must not be used in this watercraft. All ethanol blends containing more than 10% ethanol can cause fuel system damage or engine performance problems.

Yamaha does not recommend gasohol containing methanol because it can cause fuel system damage and engine performance problems.

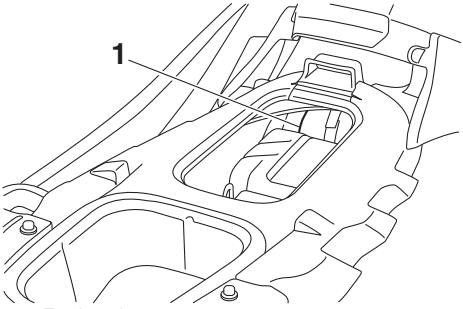
To fill the fuel tank:

(1) Before refueling, stop the engine. Do not stand or sit on the watercraft. Never refuel while smoking, or while in the vicinity

of sparks, open flames, or other sources of ignition.

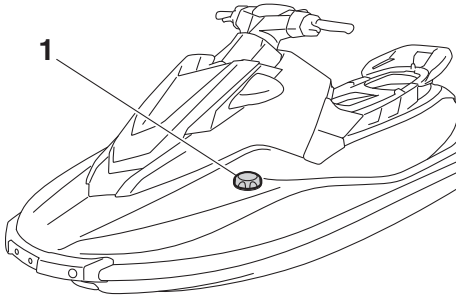
(2) Place the watercraft in a well-ventilated area and in a horizontal position.

(3) Remove the seat and fire extinguisher holder, and then check the fuel level. (See page 36 for seat removal and installation procedures and page 41 for information on the fire extinguisher holder.)



1 Fuel tank

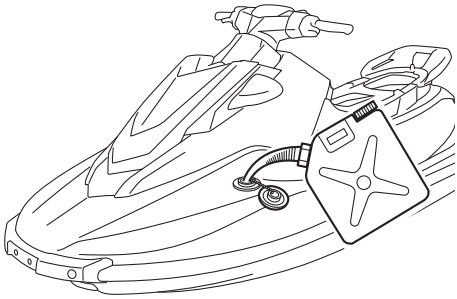
(4) Loosen the fuel filler cap and remove it.



1 Fuel filler cap

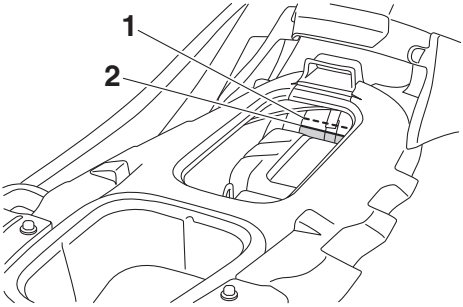
(5) Slowly add fuel to the fuel tank.

Fuel tank capacity:
50 L (13.2 US gal, 11.0 Imp.gal)

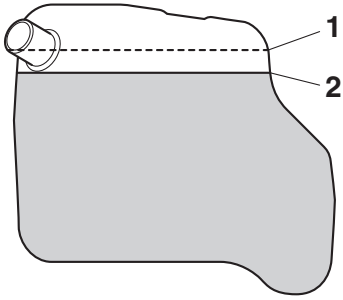


(6) Stop filling when the fuel level reaches approximately 50 mm (2 in) from the top of the fuel tank. Do not overfill the fuel tank. Because fuel expands when it heats up, heat from the engine or the sun can cause fuel to spill out of the fuel tank.

Do not leave the watercraft with a full tank in direct sunlight.



1 Top of the fuel tank
2 Approximately 50 mm (2 in) from top of the fuel tank



1 Top of the fuel tank
2 Approximately 50 mm (2 in) from top of the fuel tank

(7) Wipe up any spilled fuel immediately with a dry cloth.
(8) Securely install the fuel filler cap by tightening it until it clicks.
(9) Securely install the fire extinguisher holder and seat in their original positions.

EJU40291

Engine oil requirements

EJU44531

Engine oil

ECJ00282

NOTICE

Use only 4-stroke engine oil. Usage of 2-stroke engine oil could result in severe engine damage.

Recommended engine oil:
YAMALUBE 4W or 4-stroke motor oil
Recommended engine oil type:
SAE 10W-30, 10W-40, 20W-40, 20W-50
Recommended engine oil grade:
API SG, SH, SJ, SL

Why Yamalube

YAMALUBE oil is a Genuine YAMAHA Part born of the engineers' passion and belief that engine oil is an important liquid engine component. We form teams of specialists in the fields of mechanical engineering, chemistry, electronics and track testing, and have them develop the engine together with the oil it will use. Yamalube oils take full advantage of the base oil's qualities and blend in the ideal balance of additives to make sure the final oil clears our performance standards. Thus, Yamalube mineral, semisynthetic and synthetic oils have their own distinct characters and value. Yamaha's experience gained over many years of research and development into oil since the 1960's helps make Yamalube the best choice for your Yamaha engine.

YAMALUBE®

Checking the engine oil level

EWJ00341

⚠ WARNING

Engine oil is extremely hot immediately after the engine is turned off. Coming in contact with or getting any engine oil on your clothes could result in burns.

ECJ00392

NOTICE

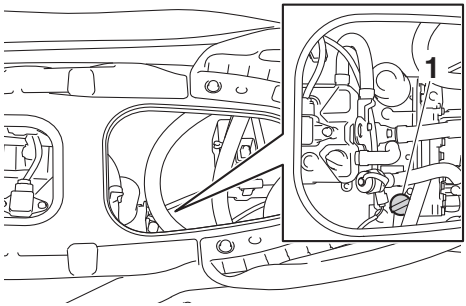
- **Do not run the engine with too much or not enough oil in the oil tank, otherwise the engine could be damaged.**
- **Make sure that debris and water do not enter the oil tank filler hole. Debris and water in the engine oil can cause serious engine damage.**

TIP:

- When checking the engine oil level on land, the engine must be running while water is being supplied to the cooling water passages. (See "Flushing the cooling water passages" on page 71 for information on supplying water.)
- When checking the engine oil level on water, moor the watercraft so that it will not drift away.

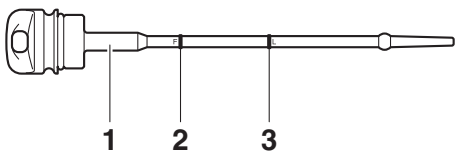
To check the engine oil level:

(1) With the engine stopped, place the watercraft in a precisely level position on land or launch the watercraft.
(2) Look in all directions, and then start the engine. (See page 60 for information on starting the engine.)
(3) Run the engine at idling speed for 6 minutes or more. Run the engine an additional 5 minutes if the ambient temperature is 20 °C (68 °F) or less.
(4) Stop the engine.
(5) Remove the seat and seat storage compartment. (See page 36 for seat removal and installation procedures and page 40 for information on the seat storage compartment.)
(6) Loosen the oil tank filler cap and remove it, and then wipe the attached dipstick clean.



1 Oil tank filler cap/Dipstick

(7) Screw the oil tank filler cap into the filler hole until it stops. Remove the oil tank filler cap again and make sure that the engine oil level is between the minimum and maximum level marks.



1 Dipstick
2 Maximum level mark
3 Minimum level mark

(8) If the engine oil level is significantly above the maximum level mark, consult a Yamaha dealer. If the engine oil level is below the minimum level mark, slowly add engine oil.

(9) Repeat steps 6–8 until the engine oil is at the proper level.
(10) Securely install the oil tank filler cap and turn it until it stops.
(11) Securely install the seat storage compartment and seat in their original positions.

EJU40022
Draining the bilge water

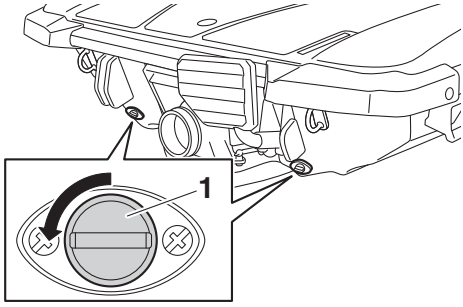
ECJ01302
NOTICE

Do not run the engine at full throttle when bilge water remains in the engine compartment. The bilge water can splash into the engine, which can result in severe damage.

EJU44260
Draining the bilge water on land

To drain the bilge water on land:

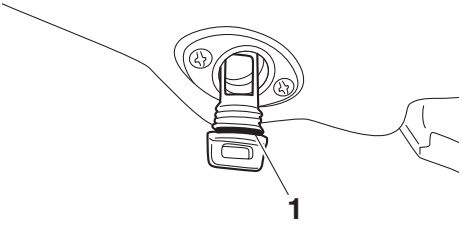
(1) Loosen the stern drain plugs and remove them.



1 Stern drain plug

(2) Raise the bow of the watercraft, such as by placing the watercraft on a slope, to drain the bilge water from the engine compartment.
(3) After the bilge water has drained from the stern drain plug holes, wipe up any remaining moisture in the engine compartment with a dry cloth.
(4) Check that the stern drain plugs and O-rings on the plugs are not damaged and that there is no foreign material on the threads or O-rings on the plugs.
NOTICE: **Before installing the stern drain plugs, clean the drain plug threads and the O-rings on the plugs to remove any foreign materials, such as dirt or sand. Otherwise, the stern**

drain plugs could be damaged, allowing water to enter the engine compartment. Check the O-rings on the stern drain plugs and make sure that the plugs are tightened securely before launching the watercraft. Otherwise, water may flood the engine compartment and cause the watercraft to submerge. [ECJ00363]



1 O-ring

(5) Securely install the stern drain plugs by tightening them until they stop.

EJU40535

Draining the bilge water on water

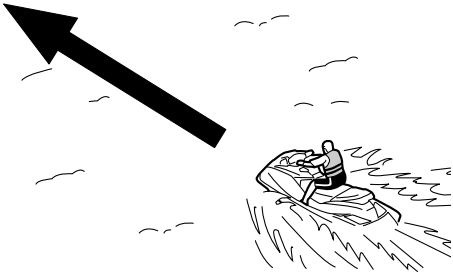
A small quantity of bilge water will remain in the engine compartment even after the bilge water is drained on water. To completely drain the bilge water, remove the watercraft from the water and drain the bilge water on land.

Jet vacuum bilge draining system

While the watercraft is operating, bilge water in the engine compartment is drawn in by the vacuum that is generated in the jet pump and discharged from the watercraft through the jet thrust nozzle.

To drain the bilge water on water:

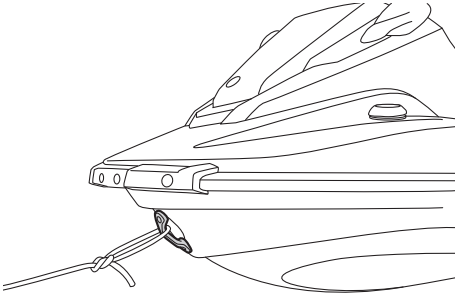
Operate the watercraft as straight as possible and above planing speed for at least 2 minutes. ***NOTICE:*** **Do not run the engine at full throttle for at least 1 minute after the engine has been restarted. Bilge water in the engine compartment can splash into the engine, which can result in severe damage.** [ECJ00554]

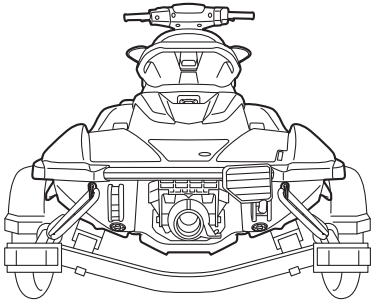


EJU42432

Transporting on a trailer

When transporting the watercraft on a trailer, secure the tie downs to the trailer through the bow eye and stern eyes. ***NOTICE:*** **Do not attach ropes or tie downs to any part of the watercraft other than the bow eye and stern eyes to secure the watercraft to the trailer. Otherwise, the watercraft may be damaged. Wrap the ropes or tie downs with towels or rags where they touch the body of the watercraft to avoid scratches or damage.** [ECJ02150]





EJU32786

Engine break-in

ECJ00432

NOTICE

Failure to perform the engine break-in could result in reduced engine life or even severe engine damage.

The engine break-in is essential to allow the various components of the engine to wear and polish themselves to the correct operating clearances. This ensures proper performance and promotes longer component life.

To perform the engine break-in:

(1) Check the engine oil level. (See page 44 for information on checking the engine oil level.)
(2) Launch the watercraft and start the engine. (See page 60 for information on starting the engine.)
(3) For the first 5 minutes, operate with the engine at idling speed.
(4) For the next 30 minutes, operate with the engine speed below 5000 r/min.
(5) For the next 1 hour, operate with the engine speed below 6500 r/min.

After the engine break-in is complete, the watercraft can be operated normally.

EJU31982

EWJ00412

WARNING

Failure to inspect or maintain the watercraft properly increases the possibility of an accident or damage to the watercraft. Do not operate the watercraft if you find any problem. If a problem cannot be corrected by the procedures provided in this manual, have the watercraft inspected by a Yamaha dealer.

EJU41235

Pre-operation checklist

Before using this watercraft, be sure to perform the checks in the following checklist.

ITEM	ROUTINE	PAGE
PRE-LAUNCH CHECKS		
Engine compartment	Ventilate the engine compartment. Check inside the engine compartment for damage.	52
Fuel system	Check the fuel system for leakage. Check the fuel level in the fuel tank.	52
Water separator	Check the water separator for water.	53
Engine unit	Check the exterior of the engine unit for damage.	53
Engine oil level	Check the engine oil level.	53
Bilge water	Check the engine compartment for bilge water.	53
Battery	Check the battery connections and electrolyte level.	53
Steering system	Check the steering system for proper operation.	54
RiDE lever	Check the RiDE lever for proper operation.	55
Throttle lever	Check the throttle lever for proper operation.	55
Engine shut-off cord (lanyard)	Check the engine shut-off cord (lanyard) for damage.	55
Switches	Check the start switch, engine stop switch, and engine shut-off switch for proper operation.	56
Storage compartments	Check the storage compartments for damage and water.	56
Fire extinguisher holder	Check the fire extinguisher holder for damage.	56
Fire extinguisher	Check the condition of the fire extinguisher.	56
Safety equipment	Check that safety equipment meeting the applicable regulations is on board.	57
Hull and deck	Check the hull and deck for damage.	57
Jet intake	Check the jet intake for damage and clogging.	57
Jet thrust nozzle and reverse gate	Check the jet thrust nozzle and reverse gate for damage.	57
Stern drain plugs	Check the stern drain plugs for damage and foreign material and check that they are securely installed.	57
Hood	Check that the hood is securely closed.	57
Seat	Check that the seat is securely installed.	36

Pre-operation checks

ITEM	ROUTINE	PAGE
POST-LAUNCH CHECKS		
Cooling water pilot outlet	Check that water is discharged from the cooling water pilot outlet while the engine is running.	58
Multifunction information center	Check the multifunction information center for proper operation.	58
Shift system	Check the shift system for proper operation.	58
Engine idling speed	Check the engine idling speed.	58

TIP:
To ensure safety and reliability, pre-operation checks should be made each time the watercraft is used.

EJU32282
Pre-operation check points
EJU44551
Pre-launch checks
Perform the pre-launch checks in the pre-operation checklist while the watercraft is on land.

To perform the pre-launch checks:

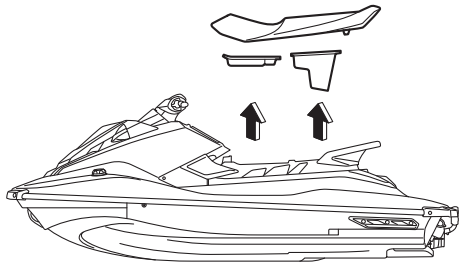
(1) Remove the seat, seat storage compartment, and fire extinguisher holder. (See page 36 for seat removal and installation procedures, page 40 for information on the seat storage compartment, and page 41 for information on the fire extinguisher holder.)
(2) Perform the checks and make sure that there are no malfunctioning items or other problems.
(3) After completing these checks, securely install the seat storage compartment, fire extinguisher holder, and seat in their original positions.

EJU32334
Engine compartment check
EWJ00462
⚠ WARNING

Failure to ventilate the engine compartment could result in a fire or explosion. Do not start the engine if there is a fuel leak.

Ventilate the engine compartment. Leave the engine compartment open for a few minutes to allow any fuel vapors to escape.

Make sure that there is no damage inside the engine compartment.



EJU34215
Fuel system checks
EWJ00382
⚠ WARNING

Leaking fuel can result in fire or explosion.
- **Check for fuel leakage regularly.**
- **If any fuel leakage is found, the fuel system must be repaired by a qualified mechanic. Improper repairs can make the watercraft unsafe to operate.**

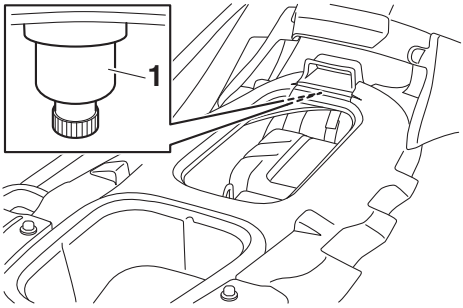
Make sure that there is no damage, leakage, or other problem in the fuel system.

Check:
- Fuel filler cap and seal for damage
- Fuel tank for damage and leakage
- Fuel hoses and joints for damage and leakage
- Fuel tank breather hose for damage and leakage

EJU36875
Fuel level check
Check the fuel level in the fuel tank.

Add fuel if necessary. (See page 42 for information on filling the fuel tank.)

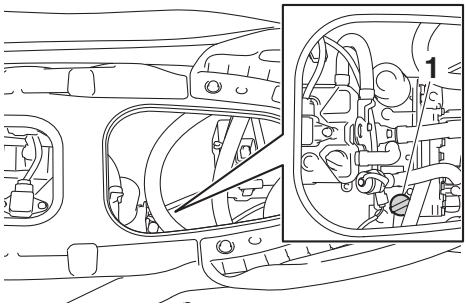
EJU32424
Water separator check
Make sure that no water has collected in the water separator. If water has collected in the water separator, drain it. (See page 26 for information on draining the water separator.)



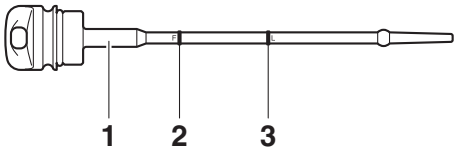
1 Water separator

EJU40182
Engine unit check
Check the exterior of the engine unit for damage or other problem.

EJU41561
Engine oil level check
Make sure that the engine oil level is between the minimum and maximum level marks on the dipstick attached to the oil tank filler cap. (See page 44 for information on checking the engine oil level.)



1 Oil tank filler cap/Dipstick

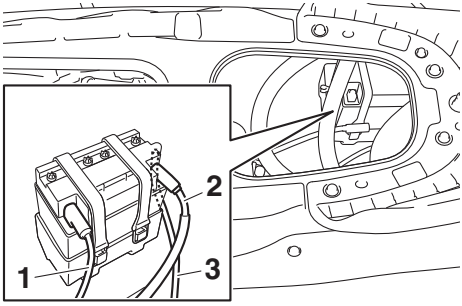


1 Dipstick
2 Maximum level mark
3 Minimum level mark

EJU32456
Bilge water check
Make sure that no bilge water has collected in the engine compartment. If bilge water has collected in the engine compartment, drain it. (See page 46 for information on draining the bilge water.)

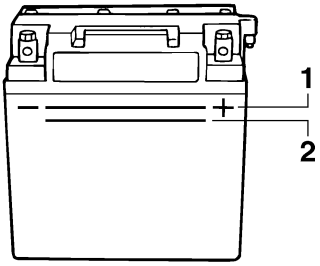
EJU32485
Battery checks
Make sure that the battery terminals and breather hose are not damaged and that the battery leads and breather hose are connect-

ed properly. **WARNING! Fire or explosion could result if the breather hose is damaged, obstructed, or not connected properly.** [EWJ00452]



1 Negative (–) battery terminal: Black lead
2 Positive (+) battery terminal: Red lead
3 Breather hose

Make sure that the electrolyte level is between the minimum and maximum level marks. **WARNING! Never operate the watercraft if the battery does not have sufficient power to start the engine or if it shows any other signs of decreased power. Loss of battery power may leave you stranded.** [EWJ01241]

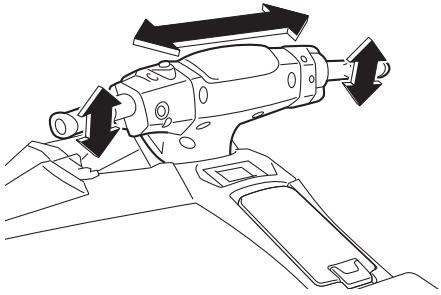


1 Maximum level mark
2 Minimum level mark

Make sure that the battery is securely held in place.

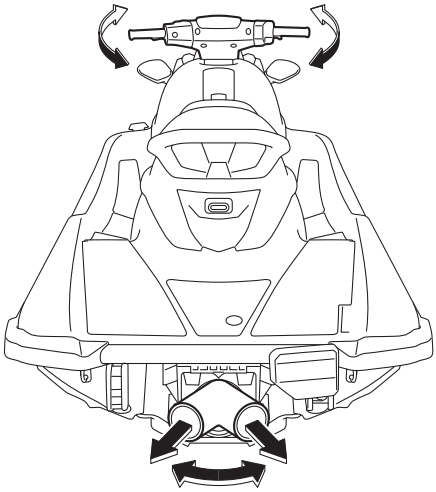
EJU32614
Steering system checks

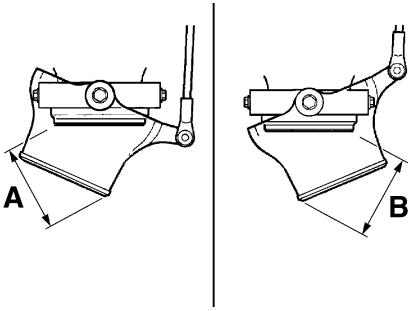
Turn the handlebars to the right and left several times to make sure that operation is smooth and unrestricted throughout the whole range, and that the free play is not excessive.



Turn the handlebars as far as possible to the right and left to make sure that the jet thrust nozzle moves as the handlebars are turned, and that there is no difference between the

right and left fully turned positions of the jet thrust nozzle.



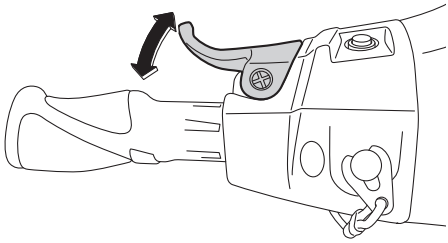


Difference between fully turned positions of jet thrust nozzle (distances A and B):
Maximum 5 mm (0.20 in)

EJU43213

RiDE lever checks

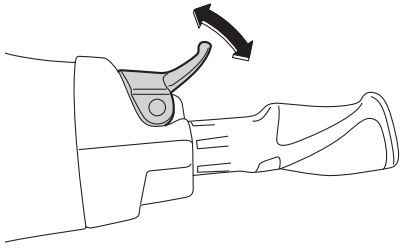
Operate the RiDE lever several times to make sure that operation is smooth throughout the whole range. Also, make sure that the RiDE lever returns automatically to its fully closed position when released.



EJU42181

Throttle lever checks

Operate the throttle lever several times to make sure that operation is smooth throughout the whole range. Also, make sure that the throttle lever returns automatically to its fully closed (idle) position when released.

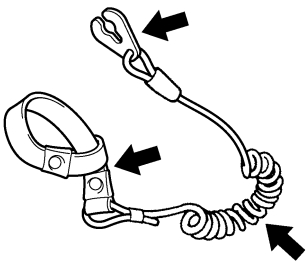


EJU32664

Engine shut-off cord (lanyard) check

Make sure that the engine shut-off cord (lanyard) is not damaged. If the cord is damaged, replace it. **WARNING! Never try to repair the engine shut-off cord (lanyard) or tie it together. The engine shut-off cord (lanyard) may not pull free when the operator**

falls off, allowing the watercraft to continue to run and cause an accident. [EWJ01221]

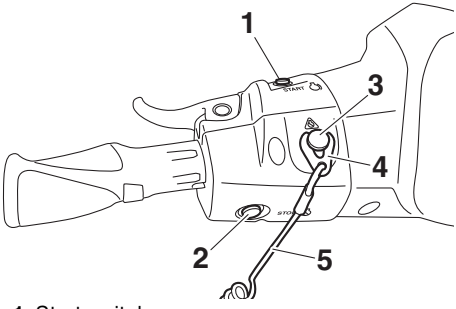


EJU40692
Switch checks
ECJ01311

NOTICE

Do not run the engine over 4000 r/min on land. Also, do not run the engine for more than 15 seconds without supplying water, otherwise the engine could overheat.

Check the start switch, the engine stop switch, and the engine shut-off switch for proper operation. (See pages 24 to 24 for information on operating each switch.)



1 Start switch
2 Engine stop switch
3 Engine shut-off switch
4 Clip
5 Engine shut-off cord (lanyard)

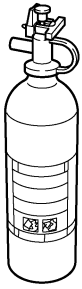
To check the operation of the switches:

(1) Push the start switch to make sure that the engine starts.
(2) As soon as the engine starts running, push the engine stop switch to make sure that the engine stops immediately.
(3) Restart the engine, and then pull the engine shut-off cord (lanyard) to remove the clip from the engine shut-off switch to make sure that the engine stops immediately.

EJU40102
Storage compartment checks
Make sure that the storage compartments are not damaged and that water has not collected in the compartments. (See page 38 for information on the storage compartments.)

EJU44670
Fire extinguisher holder checks
Make sure that the fire extinguisher holder is installed in the correct direction and is not damaged. (See page 41 for information on the fire extinguisher holder.)

EJU44630
Fire extinguisher check
Check that there is a full fire extinguisher on board.



To check the fire extinguisher, see the instructions supplied by the fire extinguisher manufacturer. Always keep the fire extinguisher stored in the holder.
Always carry a fire extinguisher on board. A fire extinguisher is not standard equipment with this watercraft. If you do not have one, contact a Yamaha dealer or a fire extinguish-

er dealer to obtain one meeting the proper specifications.

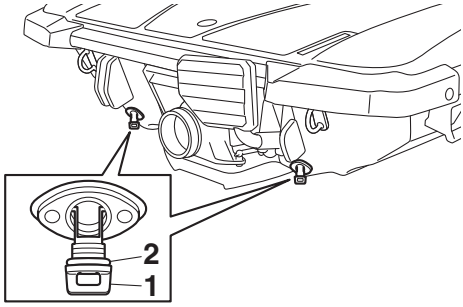
EJU40122
Safety equipment check
Check that safety equipment meeting the applicable regulations is on board.

EJU32353
Hull and deck check
Check the hull and deck for damage or other problem.

EJU32657
Jet intake checks
Make sure that the jet intake is not damaged or clogged with weeds or debris. If the jet intake is clogged, clean it. (See page 85 for information on the jet intake.)

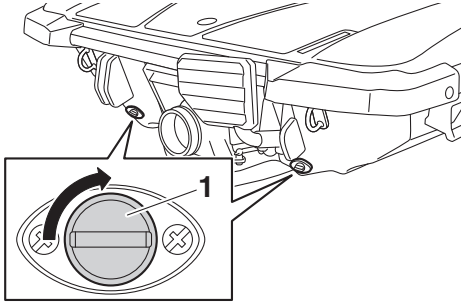
EJU43221
Jet thrust nozzle and reverse gate check
Check the jet thrust nozzle and reverse gate for damage or other problem.

EJU44250
Stern drain plug checks
Loosen the stern drain plugs and remove them, and then make sure that the plugs and O-rings on the plugs are not damaged and that there is no foreign material on the threads or O-rings on the plugs. ***NOTICE:*** **Before installing the stern drain plugs, clean the drain plug threads and the O-rings on the plugs to remove any foreign materials, such as dirt or sand. Otherwise, the stern drain plugs could be damaged, allowing water to enter the engine compartment. Check the O-rings on the stern drain plugs and make sure that the plugs are tightened securely before launching the watercraft. Otherwise, water may flood the engine compartment and cause the watercraft to submerge.** [ECJ00363]



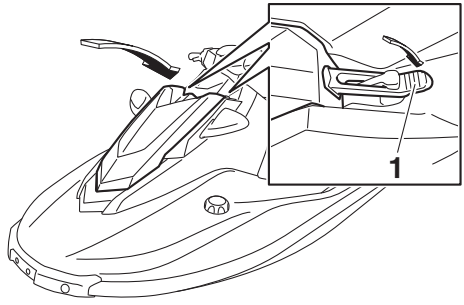
1 Stern drain plug
2 O-ring

Securely install the stern drain plugs by tightening them until they stop.



1 Stern drain plug

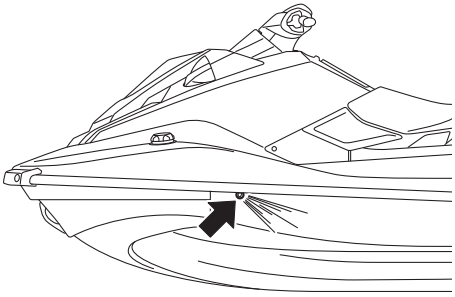
EJU44640
Hood check
Close the hood, hook the hood latches, and check that the hood is securely closed.



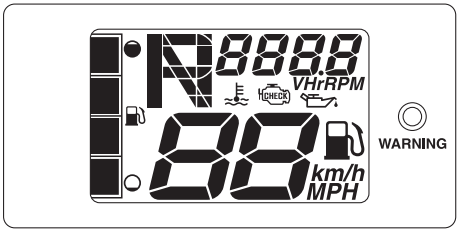
1 Hood latch

EJU40146
Post-launch checks
Perform the post-launch checks in the pre-operation checklist while the watercraft is in the water and the engine is running.
To perform the post-launch checks:
(1) Launch the watercraft. (See page 60 for information on launching the watercraft.)
(2) Perform the checks and make sure that there are no malfunctioning items or other problems.

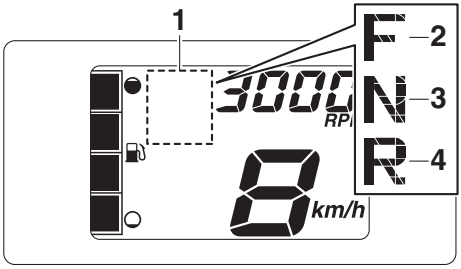
EJU40553
Cooling water pilot outlet check
Make sure that water is discharged from the cooling water pilot outlet while the engine is running. (See page 26 for information on the cooling water pilot outlet.)



EJU32715
Multifunction information center check
Make sure that the multifunction information center operates properly. (See page 31 for information on proper operation of the multifunction information center.)



EJU43392
Shift system check
Operate the throttle lever and RiDE lever, and check that the watercraft moves or does not move according to the displayed shift indicator. (See page 28 for shift system operation procedures.) **WARNING! To avoid collisions, operate at safe speeds and keep a safe distance away from people, objects, and other watercraft.** [EWJ01860]



1 Shift indicator
2 "F" (Forward position)
3 "N" (Neutral position)
4 "R" (Reverse position)

EJU40172
Engine idling speed check
Start the engine and warm it up. Use the tachometer in the multifunction information center to make sure that the engine idling speed is not significantly above or below the specified range.

Engine idling speed:
1500 ±100 r/min

EJU32903
Operating your watercraft

EWJ00511
⚠ WARNING

Before operating your watercraft, become familiar with all of the controls. Consult a Yamaha dealer about any control or function that you do not fully understand. Failure to understand how the controls work could cause an accident or prevent you from avoiding an accident.

EJU32965
Getting to know your watercraft

Operating your watercraft requires skills acquired through practice over a period of time. Take the time to learn the basic techniques well before attempting more difficult maneuvers.

Operating your new watercraft can be a very enjoyable activity, providing you with hours of pleasure. However, it is essential to familiarize yourself with the operation of the watercraft to achieve the skill level necessary to enjoy riding safely.

Before operating this watercraft, read this owner's/operator's manual, the Riding Practice Guide, the Riding Instruction card, and all labels on the watercraft. Pay particular attention to the safety information beginning on page 9. These materials should give you an understanding of the watercraft and its operation.

Remember: This watercraft is designed to carry the operator and up to 2 passengers. Never exceed the maximum load limit or allow more than 3 persons (or 2 persons if a wakeboarder or water-skier is being pulled) to ride the watercraft at any time.

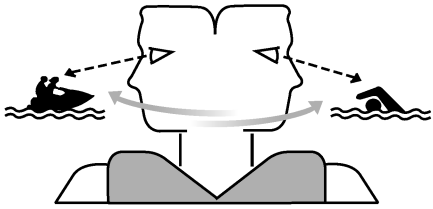
Maximum load:
220 kg (485 lb)
Load is the total weight of cargo, operator, and passengers.

EJU33006
Learning to operate your watercraft

Before operating the watercraft, always perform the pre-operation checks listed on page 50. The short time spent checking the watercraft will reward you with added safety and reliability.

Check local laws before operating your watercraft.

Operate defensively at safe speeds and keep a safe distance away from people, objects, and other watercraft. Select a wide area to learn in, where there is good visibility and light boat traffic.

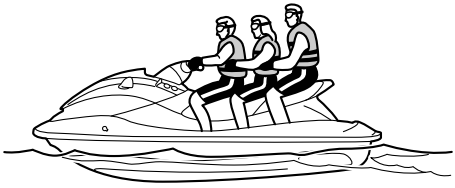


Use the buddy system—operate with someone nearby. Scan constantly for people, objects, and other watercraft. Be alert for conditions that limit your visibility or block your vision of others.

You should grip the handlebars firmly and keep both feet on the floor of the footwell. Do not attempt to ride with passengers until your operating skills are fully developed.

EJU40212
Riding position
Operator riding position
The operator should grip the handlebars firmly with both hands and sit astride the seat with both feet on the floor of the footwell.

Passenger riding position
The passenger(s) should hold on firmly, either to the person in front of them or to the handgrip provided, and sit astride the seat with their feet on the floor of the footwell. Never allow a passenger to ride in front of the operator. (See page 16 for information on the riding position when pulling a wakeboarder or water-skier.)

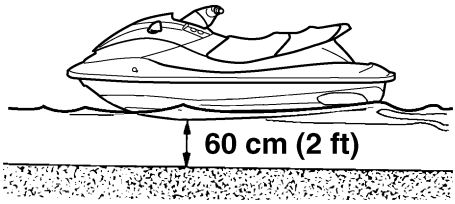


EJU32803
Launching the watercraft
When launching the watercraft, make sure that there are no obstacles around you.
If the watercraft is launched from a trailer, someone should make sure that waves do not push the watercraft into the trailer.

EJU43580
Starting the engine on water
EWJ01531
⚠ WARNING

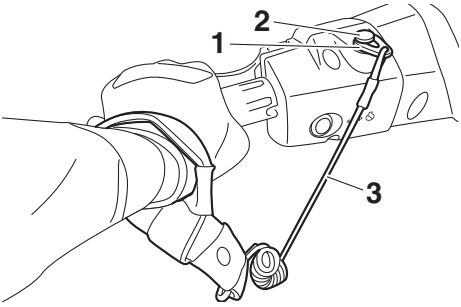
Do not apply throttle when anyone is at the rear of the watercraft. Turn the engine off or keep it at idle. Water and debris exiting the jet thrust nozzle can cause severe injury.

To start the engine:
(1) Move the watercraft to an area that is free from weeds and debris, and has a water depth of at least 60 cm (2 ft) from the bottom of the watercraft. ***NOTICE:*** **Never run the engine in water that is less than 60 cm (2 ft) deep from the bottom of the watercraft, otherwise pebbles or sand could be sucked into the jet intake, causing impeller damage and engine overheating.** [ECJ00473]



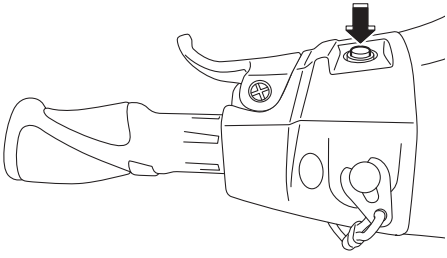
(2) Attach the engine shut-off cord (lanyard) to your left wrist, and then attach the clip to the engine shut-off switch. (See page 24 for information on operating the engine shut-off switch.) **WARNING! Check that the engine shut-off cord (lanyard) is attached correctly. If the engine shut-off cord (lanyard) is not attached correctly, it may not pull free when the operator falls off, allowing the water-**

craft to continue to run and cause an accident. [EWJ00582]



1 Clip
2 Engine shut-off switch
3 Engine shut-off cord (lanyard)

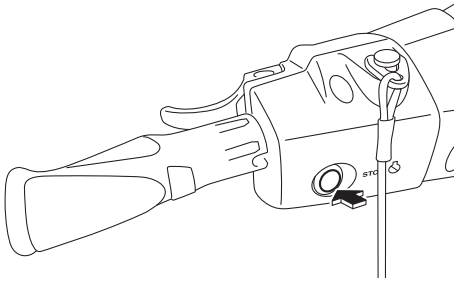
(3) With the throttle lever released, push the start switch (green button) to start the engine. (See page 24 for information on operating the start switch.)



EJU32863

Stopping the engine

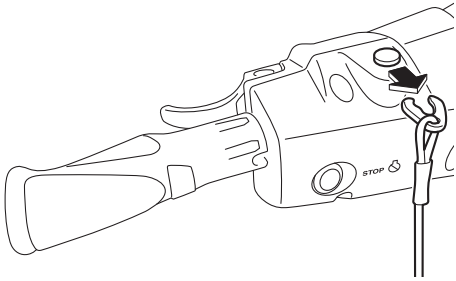
Release the throttle lever, and then push the engine stop switch (red button) to stop the engine. **WARNING! You need throttle to steer. Shutting the engine off can cause you to hit an obstacle you are attempting to avoid. A collision could result in severe injury or death.** [EWJ00602]



EJU32873

Leaving the watercraft

If leaving the watercraft, remove the clip from the engine shut-off switch to prevent accidental starting or unauthorized operation by children or others.

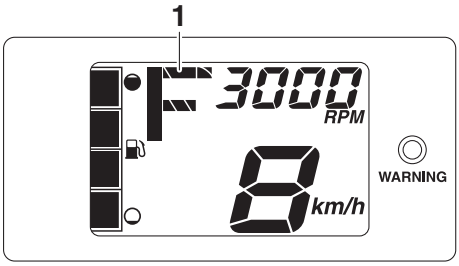


EJU43411

Operating the watercraft

When the throttle lever is squeezed, the “F” (forward) shift indicator will be displayed and the watercraft will move forward. While the “F” (forward) shift indicator is displayed, the watercraft will move forward at trolling speed even if the throttle lever is in the fully closed

(idle) position. (See page 28 for shift system operation procedures.)



1 "F" (Forward position)

EJU43423

Turning the watercraft

EWJ01783

⚠ WARNING

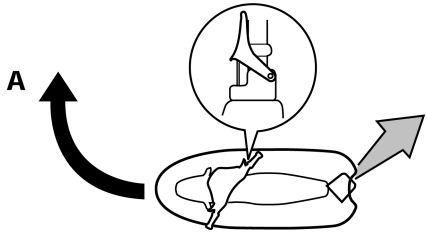
- **Do not release the throttle lever when trying to steer away from objects—as with other powerboats, you need throttle to steer. A collision could result in severe injury or death.**
- **When operating at higher speeds, make gradual turns or slow down before turning. Sharp high-speed turns may cause the watercraft to slide sideways or spin, throwing the operator and passenger(s) overboard, which could cause an injury.**
- **Take early action to avoid collisions. The RiDE system is not a braking device for avoiding dangerous situations.**

Steering control depends on the combination of handlebar position and the amount of throttle.

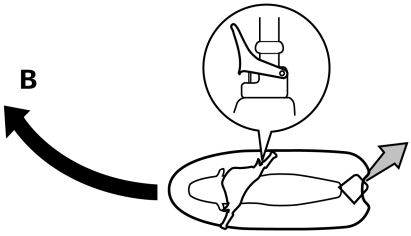
Water sucked in through the intake grate is pressurized by the impeller in the jet pump. As the pressurized water is expelled from the pump through the jet thrust nozzle, it creates thrust to move and steer the watercraft. The higher the engine speed, the more thrust produced.

The amount of jet thrust, in addition to the position of the handlebars, determines how sharply you turn.

A. More throttle produces higher thrust, so the watercraft will turn more sharply.

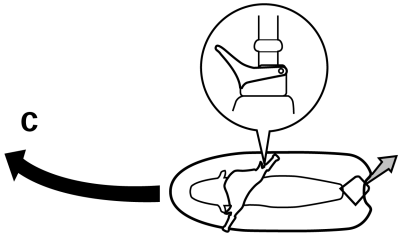


B. Less throttle produces lower thrust, so the watercraft will turn more gradually.

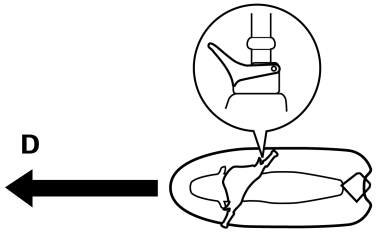


C. Releasing the throttle lever completely produces only minimum thrust. If you are traveling at speeds above trolling, you will have rapidly decreasing ability to

steer without throttle. You may still have some turning ability immediately after releasing the throttle lever, but once the engine slows down, the watercraft will no longer respond to handlebar input until you apply throttle again or you reach trolling speed.
At trolling speed, the watercraft can be turned gradually by handlebar position alone using just the amount of thrust available at idle.

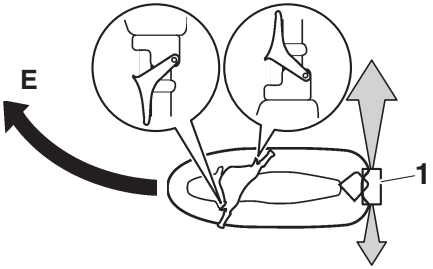


D. If the engine is stopped while riding, there is no thrust. The watercraft will go straight even though the handlebars are turned.



You need throttle to steer.

E. If the RiDE lever is squeezed and the handlebars are turned when the watercraft is cruising at planing speed, the watercraft will turn gradually while slowing down.



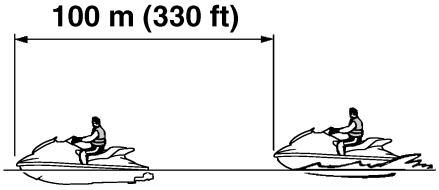
1 Reverse gate

This model is equipped with the Yamaha Engine Management System (YEMS) that includes an off-throttle steering (OTS) system. It will activate at planing speeds should you attempt to steer the watercraft after releasing the throttle lever (see condition C above).
The OTS system assists in turning by continuing to supply some thrust while the watercraft is decelerating, but you can turn more sharply if you apply throttle while turning the handlebars. The OTS system does not function below planing speeds or when the engine is off. Once the engine slows down, the watercraft will no longer turn in response to handlebar input until you apply throttle again or you reach trolling speed.

EJU43253
Stopping the watercraft

The watercraft is not equipped with a separate braking system. The watercraft slows down by water resistance or, when operating in reverse, by the water jet. The watercraft slows down as soon as the throttle lever is released, but will coast for a distance before fully stopping. If you are not sure you can stop in time before hitting an obstacle, apply throttle and turn in another direction.
From full speed, the watercraft comes to a complete stop due to water resistance in ap-

proximately 100 m (330 ft) after the throttle lever is released or the engine is stopped, although this distance will vary depending on many factors, including gross weight, water surface conditions, and wind direction.



If the RiDE lever is squeezed to slow down, the stopping distance is approximately 30% shorter than when the RiDE lever is not used. However, this distance will vary depending on many factors, including gross weight, water surface conditions, and wind direction.

EWJ01793

⚠ WARNING

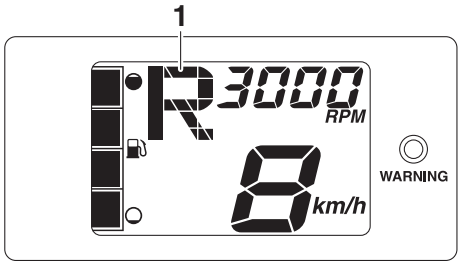
- **Allow adequate stopping distance. Stay far enough away from others so you can always safely coast to a stop.**
- **Take early action to avoid collisions. Remember, watercraft and other boats do not have brakes.**
- **Operate defensively at safe speeds and keep a safe distance away from people, objects, and other watercraft to give you time to stop.**
- **Do not shut the engine off when slowing down in case you need engine power to steer away from a boat or other obstacle that comes into your path.**
- **To avoid rear-end collisions while operating the watercraft, check behind you before using the RiDE lever to slow down or stop the watercraft.**

EJU43445

Operating the watercraft in reverse or neutral

Operating in reverse

When the RiDE lever is squeezed, the "R" (reverse) shift indicator will be displayed and the watercraft will move in reverse. (See page 28 for shift system operation procedures.)



1 "R" (Reverse position)

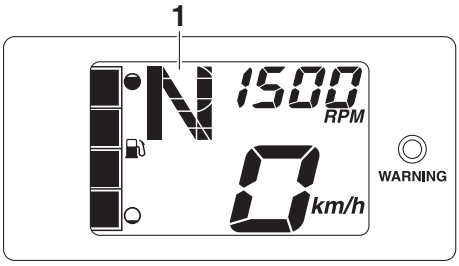
Make sure that there are no obstacles or people behind you before shifting into reverse.

TIP:

This model is equipped with a function which limits the engine speed in reverse.

Operating in neutral

When the RiDE lever is squeezed lightly and released, the "N" (neutral) shift indicator will be displayed and the watercraft will stop in its current location. (See page 28 for shift system operation procedures.)



1 "N" (Neutral position)

EJU36087

Boarding the watercraft

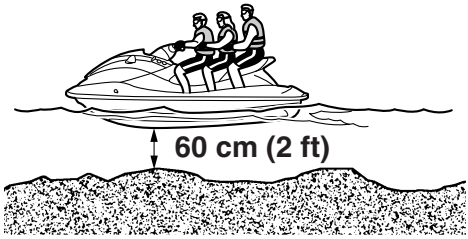
EWJ01112

⚠ WARNING

Be sure the operator and any passengers have practiced boarding from the water while still close to shore before riding. A person who has made many unsuccessful attempts to get back on the watercraft may become fatigued and suffer from exposure, increasing the risk of injury and drowning.

Board the watercraft in water free from weeds and debris and at least 60 cm (2 ft) deep from the bottom of the watercraft.

NOTICE: **Never run the engine in water that is less than 60 cm (2 ft) deep from the bottom of the watercraft, otherwise pebbles or sand could be sucked into the jet intake, causing impeller damage and engine overheating.** [ECJ00473]



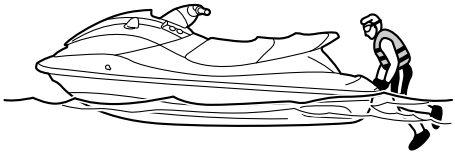
TIP:

This watercraft is equipped with a reboarding step, which can be lowered and used to assist in reboarding. (See page 37 for information on operating the reboarding step.)

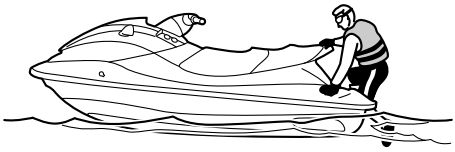
EJU36354

Boarding alone

(1) From the rear of the watercraft, place both hands on the boarding platform, pull yourself up, and then grasp the handgrip with one hand.



(2) Pull yourself up to a kneeling position on the boarding platform, and then move to the seat and sit astride.



(3) Attach the engine shut-off cord (lanyard) to your left wrist, and then attach the clip to the engine shut-off switch.
(4) Grip the handlebars with both hands and place both feet on the floor of the footwell.

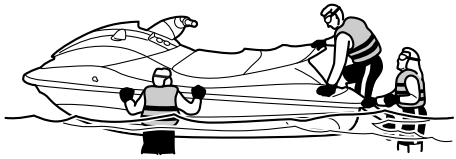
(5) Look in all directions, start the engine, and then start off slowly.

EJU43260
Boarding with passenger(s)
EWJ01800

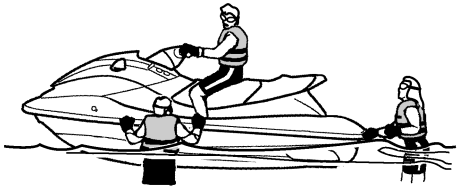
⚠ WARNING

- **Severe internal injuries can occur if water is forced into body cavities as a result of being near the jet thrust nozzle. Do not start the engine until the passengers are seated with their feet on the floor of the footwell and are securely holding on to the person in front of them or to the handgrip provided.**
- **Before boarding the watercraft, make sure that the engine is stopped. If the engine is running, the reverse gate may move down and a person boarding could be pinched.**

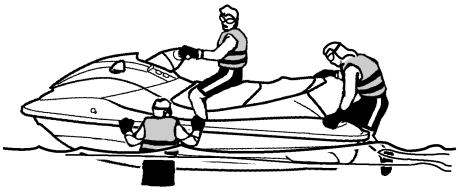
The heavier the total weight of the operator and passenger(s), the more difficult it will be to balance the watercraft. Do not operate the watercraft when the total weight exceeds 220 kg (485 lb) including any cargo.
To board with passenger(s):
(1) Board as noted in the previous section "Boarding alone".



(2) Grip the handlebars with both hands and place both feet on the floor of the footwell.
(3) Have the first passenger move to the rear of the watercraft.



(4) Have the first passenger board using the same procedure as the operator, place their feet on the floor of the footwell, and securely hold on to the operator.



(5) Have the second passenger follow the same procedure. When the second passenger is boarding, try to balance the watercraft together with the first passenger.

(6) Make sure that the passenger(s) have their feet on the floor of the footwell and are securely holding on to the person in front of them or to the handgrip provided.

(7) Attach the engine shut-off cord (lanyard) to your left wrist, and then attach the clip to the engine shut-off switch.
(8) Look in all directions, start the engine, and then start off slowly.

EJU33084
Starting off
EWJ00713

⚠ WARNING

To avoid collisions:

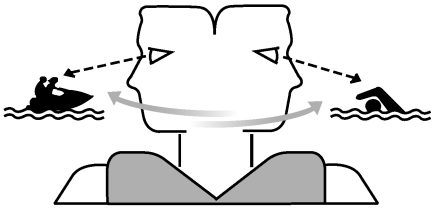
- **Scan constantly for people, objects, and other watercraft. Be alert for conditions that limit your visibility or block your vision of others.**
- **Operate defensively at safe speeds and keep a safe distance away from people, objects, and other watercraft.**
- **Do not follow directly behind watercraft or other boats. Do not go near others to spray or splash them with water, go too close to other boats, or go too fast for the traffic conditions. Avoid sharp turns or other maneuvers that make it hard for others to avoid you or understand where you are going. Avoid areas with submerged objects or shallow water.**
- **Take early action to avoid collisions. Remember, watercraft and other boats do not have brakes. Do not release the throttle lever when trying to steer away**

from objects—as with other powerboats, you need throttle to steer.

ECJ01341

NOTICE

Never run the engine in water that is less than 60 cm (2 ft) deep from the bottom of the watercraft, otherwise pebbles or sand could be sucked into the jet intake, causing impeller damage and engine overheating.



EJU43271

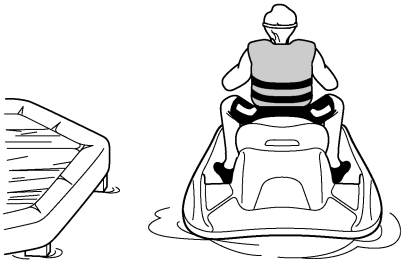
Starting off from a trailer

(1) Launch the watercraft.
(2) Attach the engine shut-off cord (lanyard) to your left wrist, and then attach the clip to the engine shut-off switch.
(3) Look in all directions, and then start the engine.
(4) Squeeze the RiDE lever and move the watercraft back slowly. (See page 28 for RiDE lever operation procedures.)

EJU33114

Boarding and starting off from a dock

(1) Board the watercraft from the side.
(2) Attach the engine shut-off cord (lanyard) to your left wrist, and then attach the clip to the engine shut-off switch.
(3) Push the watercraft away from the dock, grip the handlebars with both hands, and place both feet on the floor of the footwell.



(4) Look in all directions, start the engine, and then start off slowly.

EJU44210

Capsized watercraft

EWJ00672

⚠ WARNING

Improper uprighting can cause injury.

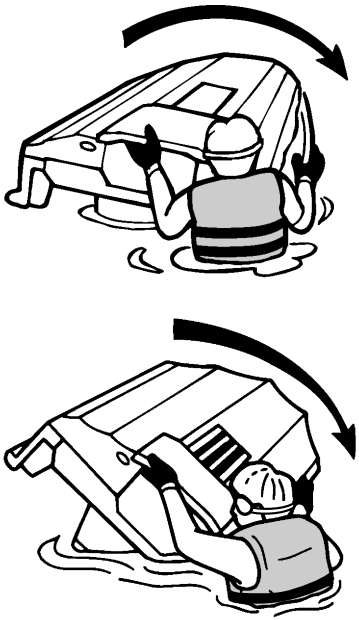
- **Be sure to shut the engine off by pulling on the engine shut-off cord (lanyard) to remove the clip from the engine shut-off switch.**
- **Do not put your hands in the intake grate.**

If the watercraft capsizes, turn it over immediately.

To upright the watercraft:

(1) Remove the clip from the engine shut-off switch.
(2) Swim to the rear of the watercraft. Turn the watercraft over by pulling on the ride plate with one hand while pushing down

on the gunwale with your other hand or your foot.



(3) Start the engine and operate the watercraft at planing speed to drain the bilge water from the engine compartment. (See page 46 for information on draining the bilge water. If the engine does not start, see "Towing the watercraft" on page 87 or "Submerged watercraft" on page 87.) ***NOTICE:*** **Do not run the engine at full throttle for at least 1 minute after the engine has been restarted. Bilge water in the engine compartment can splash into the engine, which can result in severe damage.** [ECJ00554]

EJU43282

Beaching and docking the watercraft

To beach the watercraft:

(1) Make sure that there are no boats, swimmers, or obstacles near the beach.

(2) Release the throttle lever to reduce speed about 100 m (330 ft) before you reach the intended beaching area.

(3) Slowly approach the beach using the throttle lever and RiDE lever to control the watercraft speed. ***NOTICE:*** **Never run the engine in water that is less than 60 cm (2 ft) deep from the bottom of the watercraft, otherwise pebbles or sand could be sucked into the jet intake, causing impeller damage and engine overheating.** [ECJ00473]

(4) After reaching land, stop the engine, and then get off the watercraft and pull it up on the beach.

To dock the watercraft:

(1) Make sure that there are no boats, swimmers, or obstacles near the dock.

(2) Release the throttle lever to reduce speed about 100 m (330 ft) away from the dock.

(3) Slowly approach the dock using the throttle lever and RiDE lever to control the watercraft speed.

(4) After coming alongside the dock, stop the engine, and then get off the watercraft.

EJU37194

Operating in weeded areas

Always avoid using your watercraft in areas where weed growth is thick. If operating in weeded areas is unavoidable, alternately squeeze the throttle lever and relax your grip on the throttle lever to vary the engine speed. Weeds tend to become clogged more when operating at a steady speed and at trolling speed. If weeds may have clogged the intake area, clean the jet intake. (See page 85 for information on the jet intake.)

EJU40242
After removing the watercraft from the water
ECJ01311

NOTICE

Do not run the engine over 4000 r/min on land. Also, do not run the engine for more than 15 seconds without supplying water, otherwise the engine could overheat.

After operating and removing the watercraft from the water, promptly discharge the remaining water from the cooling water passages.

To discharge water from the cooling water passages:

(1) Make sure that the area around the watercraft is clear, and then start the engine.
(2) Discharge the remaining water out of the cooling water passages by alternately squeezing and releasing the throttle lever quickly for 10 to 15 seconds.
(3) Stop the engine.

EJU37146

Post-operation care

EWJ00331

⚠ WARNING

Always place the watercraft upright in a horizontal position when storing it, otherwise fuel could leak out into the engine or engine compartment, which could create a fire hazard.

After using the watercraft, always take it out of the water, clean it, and store it. Leaving the watercraft in the water for extended periods will accelerate the rate of normal deterioration of the jet pump and hull. Marine organisms and corrosion are some of the conditions that can shorten the life of many watercraft components.

EJU44560

Flushing the cooling water passages

ECJ01311

NOTICE

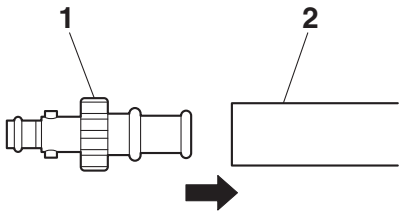
Do not run the engine over 4000 r/min on land. Also, do not run the engine for more than 15 seconds without supplying water, otherwise the engine could overheat.

Flush the cooling water passages to prevent them from clogging with salt, sand, or dirt.

(1) Place the watercraft in a horizontal position.

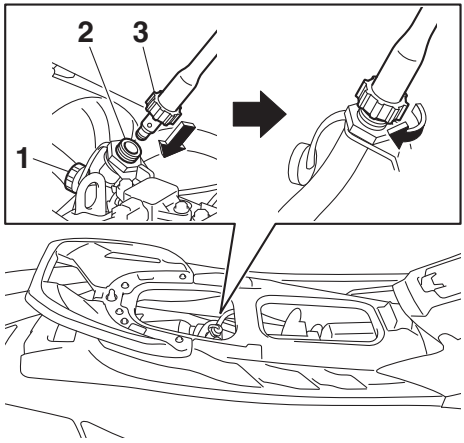
(2) Remove the seat and seat storage compartment. (See page 36 for seat removal and installation procedures and page 40 for information on the seat storage compartment.)

(3) Connect the garden hose adapter to a garden hose.



1 Garden hose adapter
2 Garden hose

(4) Loosen the flushing hose connector cap and remove it. Insert the garden hose adapter into the flushing hose connector by pushing and twisting it until it is securely connected.

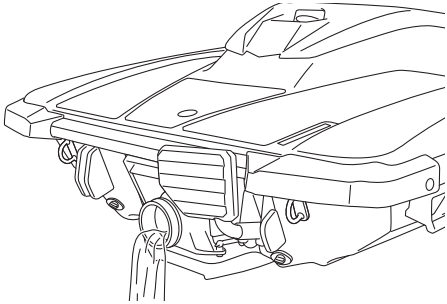


1 Flushing hose connector cap
2 Flushing hose connector
3 Garden hose adapter

(5) Connect the garden hose to a water tap.

(6) Make sure that the area around the watercraft is clear, and then start the engine. Immediately after the engine starts, fully turn the water supply on so that wa-

ter flows out continually from the jet thrust nozzle.



(7) Run the engine at idling speed for about 3 minutes watching the engine condition. If the engine stops while flushing, turn the water supply off immediately and perform the procedure again from step 6.
NOTICE: **Do not supply water to the cooling water passages when the engine is not running. The water could flow back through the muffler into the engine, causing severe engine damage.** [ECJ00123]
(8) Turn the water supply off.
(9) Discharge the remaining water out of the cooling water passages by alternately squeezing and releasing the throttle lever quickly for 10 to 15 seconds.
(10) Stop the engine.
(11) Remove the garden hose adapter, and then securely install the flushing hose connector cap by tightening it until it stops.
(12) Securely install the seat storage compartment and seat in their original positions.

EJU44770
Cleaning the watercraft

(1) Remove the seat and fire extinguisher holder. (See page 36 for seat removal and installation procedures and page 41 for information on the fire extinguisher holder.)
(2) If the watercraft will be stored for a week or more, rustproof the internal engine components to help prevent corrosion. (See page 75 for information on rustproofing the internal engine components.)
(3) Rinse the engine and engine compartment with a small amount of water.
NOTICE: **Do not use high-pressure water when rinsing the engine or engine compartment as severe engine damage could result.** [ECJ00572]
(4) Drain the water from the engine compartment. (See page 46 for information on draining the bilge water.)
(5) Wipe the engine and engine compartment with a dry cloth.
(6) Wash down the hull, deck, and jet pump with fresh water.
(7) Wipe the hull, deck, and jet pump with a dry cloth.
(8) Wipe all vinyl and rubber components, such as the seat and engine compartment seals, with a vinyl protectant.
(9) To minimize corrosion, spray metallic parts of the hull, deck, and engine with a rust inhibitor.
(10) Allow the engine compartment to air dry completely before installing the seat.
(11) Securely install the fire extinguisher holder and seat in their original positions.

EJU33688
Battery care

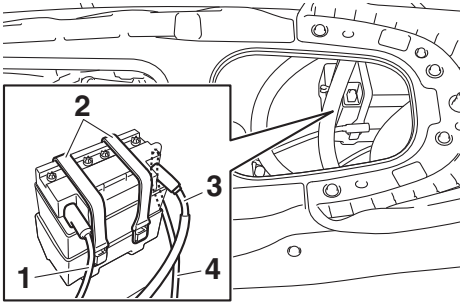
If the watercraft will not be used for more than a month, remove the battery from the watercraft, check it, and then store it in a cool, dry place.

EWJ00792

⚠ WARNING

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. Electrolyte contains sulfuric acid. Avoid contact with skin, eyes, or clothing.
Antidotes
External: Flush with water.
Internal: Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call a physician immediately.
Eyes: Flush with water for 15 minutes and get prompt medical attention.
Batteries produce explosive gases. Keep sparks, flames, cigarettes, etc., well away. If using or charging the battery in an enclosed space, make sure that it is well ventilated. Always shield your eyes when working near batteries.
Keep out of the reach of children.

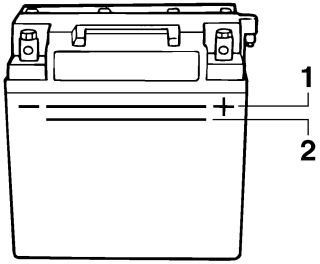
To remove the battery:
(1) Disconnect the negative (–) battery lead.
(2) Disconnect the positive (+) battery lead.
(3) Disconnect the breather hose.
(4) Unhook the battery bands, and then remove the battery from the watercraft.



1 Negative (–) battery terminal: Black lead
2 Battery band
3 Positive (+) battery terminal: Red lead
4 Breather hose

Checking the battery
- Make sure that the battery case is not damaged.
- Make sure that the battery terminals are not corroded or damaged.
- Make sure that the breather hose is not clogged or damaged.

Checking the electrolyte level
Make sure that the electrolyte level is between the maximum and minimum level marks.
If the electrolyte level is low, add distilled water to raise it to the specified level. ***NOTICE:*** **Use only distilled water for replenishing the battery, otherwise battery life could be shortened.** [ECJ00242]

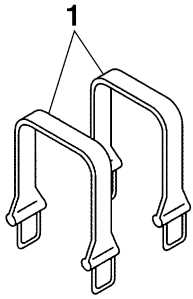


1 Maximum level mark
2 Minimum level mark

If distilled water was added, check the battery voltage.
It is recommended to have a Yamaha dealer check the battery voltage and charge the battery. If you charge the battery yourself, be sure to read and follow the instructions provided with the battery tester and charger you use. ***NOTICE:*** **Do not attempt to charge a battery hastily. Battery life could be shortened.** [ECJ00252]

Checking the battery bands

Make sure that the battery bands are not damaged.

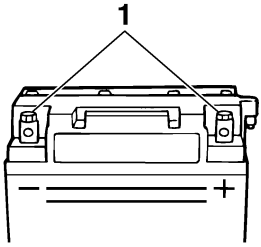


1 Battery band

To store the battery:

(1) Clean the battery case using fresh water.

(2) If the battery terminals are dirty or corroded, clean them using a wire brush.



1 Battery terminal

(3) Apply water-resistant grease to the battery terminals.

Recommended water-resistant grease:
YAMALUBE MARINE
GREASE/Yamaha Grease A

(4) Store the battery in a cool, dry place. ***NOTICE:*** **Storing the battery in an uncharged condition can cause permanent battery damage. Check the battery periodically.** [ECJ00103]

To install the battery:

(1) Place the battery in the battery compartment and hook the battery bands onto the holders.

(2) Connect the positive (+) battery lead (red) to the positive (+) battery terminal. ***NOTICE:*** **Reversal of the battery leads will damage the electrical parts.** [ECJ00262]

(3) Connect the negative (–) battery lead (black) to the negative (–) battery terminal.

(4) Connect the breather hose to the battery. **WARNING! Fire or explosion could result if the breather hose is damaged, obstructed, or not connected properly.** [EWJ00452]

(5) Make sure that the battery is securely held in place.

EJU33493

Long-term storage

EWJ00331

⚠ WARNING

Always place the watercraft upright in a horizontal position when storing it, otherwise fuel could leak out into the engine or engine compartment, which could create a fire hazard.

Storage for long periods of time, such as winter storage, requires preventive maintenance to ensure against deterioration. It is advisable to have the watercraft serviced by a Yamaha dealer prior to storage.

However, the following procedures can be performed easily by the owner.

EJU40763

Cleaning

(1) Flush the cooling water passages. (See page 71 for information on flushing the cooling water passages.)

TIP:

If you will be storing the watercraft for a prolonged period, such as winter storage, top off the fuel tank with fresh gasoline and add fuel stabilizer and conditioner to the fuel tank according to the manufacturer's instruction before starting the engine.

(2) Clean the watercraft. (See page 72 for information on cleaning the watercraft.)
Wax the hull with a non-abrasive wax.

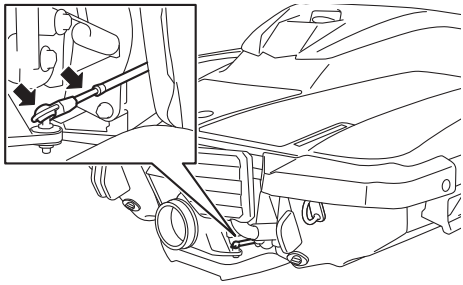
EJU43663

Lubrication

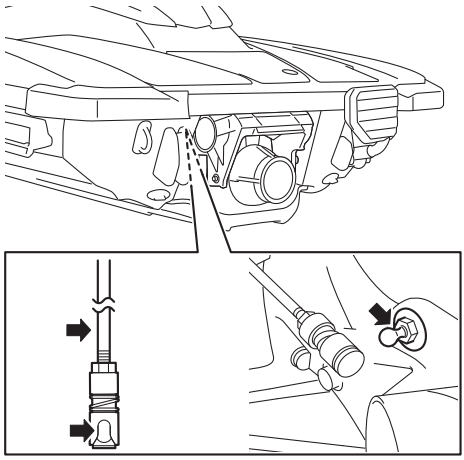
To keep moving parts sliding or rotating smoothly, lubricate them with water-resistant grease.

Recommended water-resistant grease:
YAMALUBE MARINE GREASE /
Yamaha Grease A

- Steering cable (jet thrust nozzle end)



- Shift rod (reverse gate end) and ball joint



TIP:

Disconnect the shift rod from the ball joint before lubricating.

EJU44790

Rustproofing

Rustproofing the hull, deck, and engine

Spray metallic parts of the hull, deck, and engine with a rust inhibitor.

Rustproofing the internal engine components

Rustproof the internal engine components with a rust inhibitor.

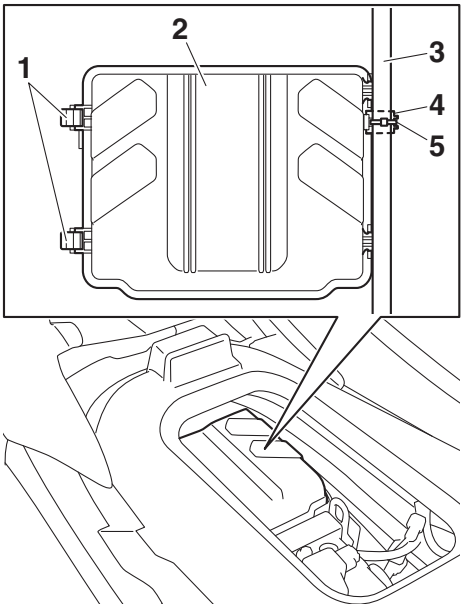
To rustproof the internal engine components:

(1) Remove the seat and fire extinguisher holder. (See page 36 for seat removal

and installation procedures and page 41 for information on the fire extinguisher holder.)

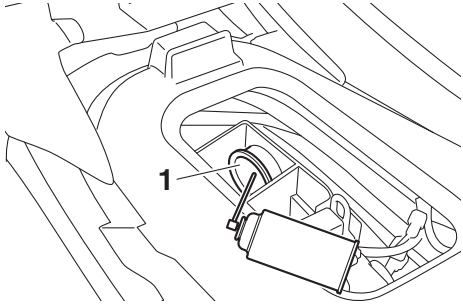
(2) Remove the plastic tie that is fastening the fuel hose to the holder on the starboard side of the air filter case.

(3) Release the hooks on the port side of the air filter case, and remove the air filter case cover.



1 Hook
2 Air filter case cover
3 Fuel hose
4 Holder
5 Plastic tie

(4) Spray a rust inhibitor into the intake opening for 3 seconds. **WARNING! Do not spray flammable rust inhibitor products on engine surfaces while the engine is hot. The sprayed substance or propellants could catch fire.** [EWJ00262]



1 Intake opening

(5) Place the air filter case cover in its original position, and then fit the hooks onto the cover.

TIP:
Make sure that the air filter case cover is securely installed.

(6) Fasten the fuel hose to the holder using the plastic tie.

(7) Make sure that the area around the watercraft is clear, and then start the engine in a well-ventilated area and let it run at idle for 15 seconds. (See page 24 for information on starting the engine.)

(8) Stop the engine.

(9) Securely install the fire extinguisher holder and seat in their original positions.

EJU33769

Maintenance

Periodic checks and lubrication will keep your watercraft in the safest and most efficient condition possible. Therefore, make sure to carry out the periodic maintenance. Safety is an obligation of the watercraft owner. Proper maintenance must be carried out to keep the exhaust emission and sound levels within the regulated limits. The most important points of watercraft inspection and lubrication are explained on the following pages.

See a Yamaha dealer for genuine Yamaha replacement parts and optional accessories designed for your watercraft.

Remember, failures that are the result of the installation of parts or accessories which are not qualitatively equivalent to genuine Yamaha parts are not covered by the limited warranty.

Maintenance, replacement, or repair of the emission control devices and system may be performed by any marine SI engine repair establishment or individual. Warranty repair, however, must be performed at an authorized Yamaha marine dealership.

EWJ00312

⚠ WARNING

Be sure to turn off the engine when you perform maintenance unless otherwise specified. If you are not familiar with machine servicing, this work should be done by a Yamaha dealer or other qualified mechanic.

EJU43101
Periodic maintenance chart

The periodic maintenance chart gives general guidelines for periodic maintenance. Have a Yamaha dealer perform the checks in the following chart. However, maintenance may need to be performed more frequently depending on your operating conditions. If you have any questions, consult a Yamaha dealer.

This "√" mark indicates items to be checked and serviced by a Yamaha dealer.

Item	Operation	Initial	Thereafter every			Page
		10 hours	50 hours or 12 months *1	100 hours or 12 months *1	200 hours or 24 months *1	
Fuel line	Check fuel hoses and clamps			√		—
Fuel filler cap/Water separator	Check O-rings for cracks and deformation			√		—
Fuel tank	Check installation and straps			√		—
Water inlet strainer	Check for clogs and damage			√		—
Cooling water hoses	Check for damage and leakage, and check clamps			√		—
Engine oil	Replace	√		√		80
Oil filter	Replace			√		80
Spark plugs	Check	√		√		—
Battery	Check state of charge, terminals, bands, and breather hose			√		—
Battery leads	Check terminals			√		—
Steering master	Check operation and for looseness	√		√		—
Steering cable	Check exterior and connections, and lubricate			√		—
Shift rod and reverse gate	Check exterior and connections, and lubricate			√		—
Air filter element	Check for damage and dirt			√		—
Air intake hoses	Check for damage, and check clamps			√		—
Throttle body	Lubricate throttle valve			√		—
Exhaust system	Check for exhaust leakage, and check hoses and clamps			√		—

Item	Operation	Initial	Thereafter every			Page
		10 hours	50 hours or 12 months *1	100 hours or 12 months *1	200 hours or 24 months *1	
Breather hose	Check breather hose and clamps			√		—
Impeller	Check for bends, damage, and foreign material			√		—
Jet thrust nozzle	Check movement, and lubricate			√		—
Jet vacuum bilge	Check hoses for clogs and damage, check clamps, and clean bilge strainer			√		—
Stern drain plugs	Check O-rings			√		—
Anode	Check for corrosion, and clean				√ *2	—
Valve clearance	Check and adjust				√ *2	—
Rubber coupling	Check for cracks, indentations, looseness, and noise				√	—
Engine mount	Check for damage and peeling				√	—

*1: Whichever comes first.

*2: Check every 200 hours.

Perform the pre-operation checks and post-operation checks before performing periodic maintenance.

EJU36943
Engine oil and oil filter
EWJ00341
⚠ WARNING

Engine oil is extremely hot immediately after the engine is turned off. Coming in contact with or getting any engine oil on your clothes could result in burns.

ECJ00992
NOTICE

Do not run the engine with too much or not enough oil in the engine, otherwise the engine could be damaged.

It is recommended to have a Yamaha dealer change the engine oil and the engine oil filter. However, if you choose to change the oil and filter on your own, consult a Yamaha dealer.

EJU45440

Specifications

Watercraft capacity:
Maximum people on board:
3 person
Maximum load capacity:
220 kg (485 lb)

Dimensions and weight:
Length:
3140 mm (123.6 in)
Width:
1130 mm (44.5 in)
Height:
1150 mm (45.3 in)
Dry weight:
245 kg (540 lb)

Performance:
Maximum output (according to ISO 8665/SAE J1228):
80.9 kW at 8000 r/min
Maximum fuel consumption:
34.4 L/h (9.1 US gal/h, 7.6 Imp.gal/h)
Cruising range at full throttle:
1.45 hour
Trolling speed:
1500 ±100 r/min

Engine:
Engine type:
Liquid cooled 4-stroke, DOHC
Number of cylinders:
3
Engine displacement:
1049 cm^3
Bore × stroke:
82.0 × 66.2 mm (3.23 × 2.61 in)
Compression ratio:
11.0 : 1
Valve clearance-intake (cold):
0.15–0.22 mm (0.0059–0.0087 in)
Valve clearance-exhaust (cold):
0.26–0.32 mm (0.0102–0.0126 in)
Lubrication system:
Dry sump
Cooling system:
Water
Starting system:
Electric
Ignition system:
T.C.I.
Spark plug (NGK):
CR9EB
Spark plug gap:
0.7–0.8 mm (0.028–0.031 in)
Battery capacity:
12 V, 19 Ah
Charging system:
Flywheel magneto

Drive unit:
Propulsion system:
Jet pump
Jet pump type:
Axial flow, single stage
Impeller rotation:
Counterclockwise
Jet thrust nozzle angle:
24+24 °

Fuel and oil:
Recommended fuel:
Regular unleaded gasoline
Minimum octane rating (PON):
86
Minimum octane rating (RON):
90
Recommended engine oil:
YAMALUBE 4W or 4-stroke motor oil

Recommended engine oil type SAE:
SAE 10W-30, 10W-40, 20W-40, 20W-50
Recommended engine oil grade API:
API SG, SH, SJ, SL
Fuel tank total capacity:
50 L (13.2 US gal, 11.0 Imp.gal)
Engine oil quantity with oil filter replacement:
3.4 L (3.59 US qt, 2.99 Imp.qt)
Engine oil quantity without oil filter replacement:
3.2 L (3.38 US qt, 2.82 Imp.qt)
Engine oil total quantity:
3.7 L (3.91 US qt, 3.26 Imp.qt)

EJU34562

Troubleshooting

If you have any trouble with your watercraft, use the troubleshooting chart to check for the possible cause.

If you cannot find the cause, consult a Yamaha dealer.

EJU44430

Troubleshooting chart

Confirm the possible cause and remedy, and then refer to the applicable page.

TROUBLE	POSSIBLE CAUSE		REMEDY	PAGE
Engine does not start (Starter motor does not turn over)	Engine shut-off switch	Clip not in place	Install clip	24
	Fuse	Burned out	Have serviced by Yamaha dealer	—
	Battery	Run down	Recharge	72
		Poor terminal connections	Tighten as required	72
		Terminal corroded	Clean or replace	72
	Starter motor	Faulty	Have serviced by Yamaha dealer	—
Engine does not start (Starter motor turns over)	Throttle lever	Squeezed	Release	24
		Faulty	Have serviced by Yamaha dealer	—
	RiDE lever	Squeezed	Release	24
		Faulty	Have serviced by Yamaha dealer	—
	Fuel	Fuel tank empty	Refill as soon as possible	42
		Stale or contaminated	Have serviced by Yamaha dealer	—
	Fuel tank	Water or dirt present	Have serviced by Yamaha dealer	—
	Spark plug	Fouled or defective	Have serviced by Yamaha dealer	—
	Fuel injection system	Fuel pump faulty	Have serviced by Yamaha dealer	—

Trouble recovery

TROUBLE	POSSIBLE CAUSE		REMEDY	PAGE
Engine runs irregularly or stalls	Fuel	Fuel tank empty	Refill as soon as possible	42
		Stale or contaminated	Have serviced by Yamaha dealer	—
	Fuel tank	Water or dirt present	Have serviced by Yamaha dealer	—
	Spark plug	Fouled or defective	Have serviced by Yamaha dealer	—
		Incorrect heat range	Have serviced by Yamaha dealer	—
		Gap incorrect	Have serviced by Yamaha dealer	—
	Electrical wiring	Loose connection	Have serviced by Yamaha dealer	—
	Fuel injection system	Faulty or clogged injectors	Have serviced by Yamaha dealer	—
Warning light or indicator blinks or comes on	Fuel level warning	Fuel tank empty	Refill as soon as possible	42
	Oil pressure warning	Oil pressure dropped	Have serviced by Yamaha dealer	34
	Engine overheat warning	Jet intake clogged	Clean	85
	Check engine warning	Faulty sensors	Have serviced by Yamaha dealer	35

TROUBLE	POSSIBLE CAUSE		REMEDY	PAGE
Watercraft slow or loses power	Cavitation	Jet intake clogged	Clean	85
		Impeller damaged or worn	Have serviced by Yamaha dealer	85
	Engine overheat warning	Engine speed reduction control activated	Clean jet intake and cool engine	34
	Oil pressure warning	Engine speed reduction control activated	Add oil	34
	Spark plug	Fouled or defective	Have serviced by Yamaha dealer	—
		Incorrect heat range	Have serviced by Yamaha dealer	—
		Gap incorrect	Have serviced by Yamaha dealer	—
	Electrical wiring	Loose connection	Have serviced by Yamaha dealer	—
	Fuel	Stale or contaminated	Have serviced by Yamaha dealer	—
	Air filter	Clogged	Have serviced by Yamaha dealer	—
		Oil buildup	Have serviced by Yamaha dealer	—
	Throttle lever	Faulty	Have serviced by Yamaha dealer	—

EJU34625

Emergency procedures

EJU44590

Cleaning the jet intake and impeller

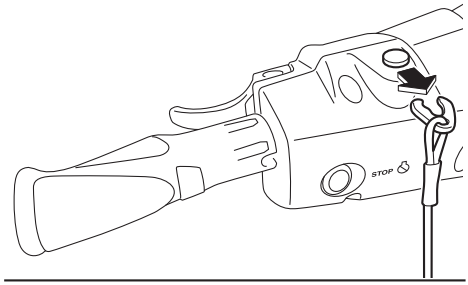
EWJ00783

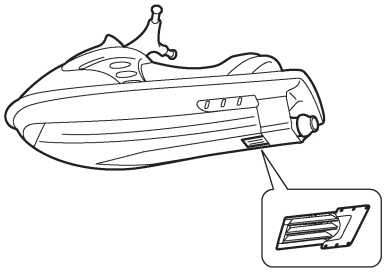
⚠ WARNING

Before attempting to remove weeds or debris from the jet intake or impeller area, shut the engine off and remove the clip from the engine shut-off switch. Severe injury or death could result from coming in contact with the rotating parts of the jet pump.

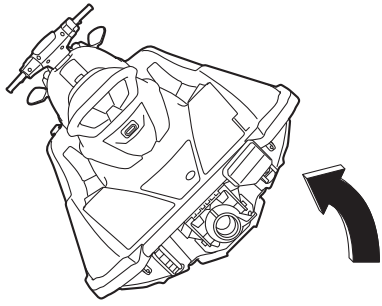
If weeds or debris gets caught in the jet intake or impeller, cavitation can occur, causing jet thrust to decrease even though engine speed rises. If this condition is allowed to continue, the engine will overheat and may seize. ***NOTICE:*** **If weeds or debris gets caught in the jet intake, do not operate the watercraft above trolling speed until they have been removed.** [ECJ00654]

If there is any sign that the jet intake or impeller is clogged with weeds or debris, return to shore and check the intake and impeller. Always stop the engine before beaching the watercraft.





(1) Place a suitable clean cloth or carpeting underneath the watercraft to protect it from abrasions and scratches. Turn the watercraft on its side as shown. ***NOTICE:*** **When turning the watercraft on its side, support the bow so that the handlebars are not bent or damaged.** [ECJ02690]



(2) Remove any weeds or debris from around the jet intake, drive shaft, impel-

ler, jet pump housing, and jet thrust nozzle.

If debris is difficult to remove, consult a Yamaha dealer.

EJU43472

Raising the reverse gate

If the RiDE system malfunctions and the reverse gate remains in the lowered position, the watercraft will not be able to move forward.

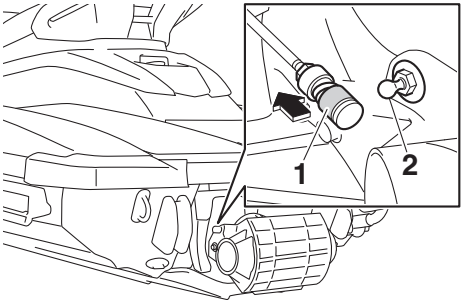
After raising the reverse gate so that the watercraft can move forward, immediately return to shore and have a Yamaha dealer service the watercraft.

To raise the reverse gate:

(1) Stop the engine and remove the clip from the engine shut-off switch.

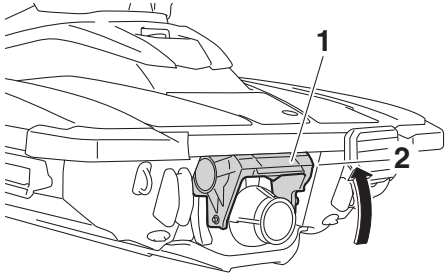
(2) Enter the water and move to the rear of the watercraft.

(3) Slide the shift rod joint toward the bow, and then disconnect the shift rod joint from the ball joint.



1 Shift rod joint
2 Ball joint

(4) Raise the reverse gate to the forward position.



1 Reverse gate
2 Forward position

TIP:

- While the shift rod is disconnected, the reverse gate will not move to the neutral position or reverse position even if the RiDE lever is squeezed.
- If the RiDE lever is squeezed while the shift rod is disconnected, the watercraft will move forward.

EJU34642

Jumping the battery

If the watercraft battery has run down, the engine can be started using a 12-volt booster battery and jumper cables.

EJU34664

Connecting the jumper cables

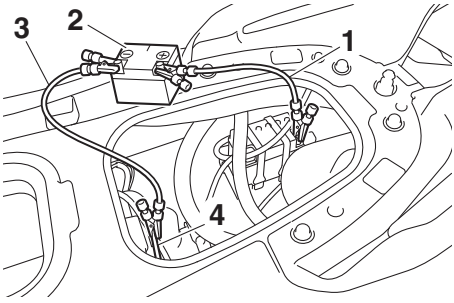
EWJ01251

⚠ WARNING

To avoid battery explosion and serious damage to the electrical system:

- **Do not reverse the polarity of the jumper cables when connecting to the batteries.**
- **Do not connect the negative (–) jumper cable to the negative (–) terminal of the watercraft battery.**
- **Do not touch the positive (+) jumper cable to the negative (–) jumper cable.**

(1) Connect the positive (+) jumper cable to the positive (+) battery terminals of both batteries.
(2) Connect one end of the negative (–) jumper cable to the negative (–) battery terminal of the booster battery.
(3) Connect the other end of the negative (–) jumper cable to an engine hanger.



1 Positive (+) jumper cable
2 Booster battery
3 Negative (–) jumper cable
4 Engine hanger

(4) Start the engine, and then disconnect the jumper cables by reversing the steps above. (See page 24 for information on starting the engine.)

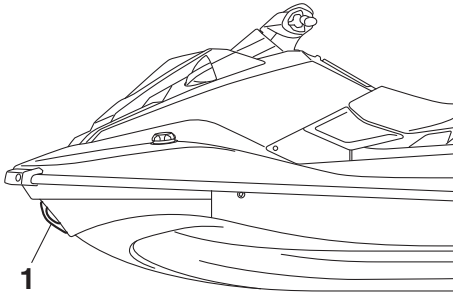
EJU34716
Towing the watercraft

EWJ00812
⚠ WARNING

- **The operator of the towing boat must keep speed to a minimum and avoid traffic or obstacles which could be a hazard to the operator on the watercraft.**
- **The towline should be long enough so that the watercraft will not collide with the towing boat when slowing down.**

If the watercraft becomes inoperative in the water, it can be towed to shore.

To tow the watercraft:
Use a towline that is three times the combined length of the towing boat and the watercraft.
(1) Securely attach the towline to the bow eye of the watercraft being towed.



1 Bow eye

(2) Sit astride the seat and hold on to the handlebars in order to balance the watercraft. ***NOTICE:*** **The bow must be kept up out of the water during towing, otherwise water could flood the engine compartment or water could flow back into the engine, causing severe engine damage.** [ECJ01331]

Tow the watercraft at 8 km/h (5 mph) or less.
NOTICE: **Tow the watercraft at 8 km/h (5 mph) or less, otherwise water could flood the engine compartment or water could flow back into the engine, causing severe engine damage.** [ECJ01322]

EJU42101
Submerged watercraft

If the watercraft is submerged or flooded with water, drain the bilge water from the engine compartment. Then, have a Yamaha dealer service the watercraft as soon as possible.
If the watercraft was submerged:
(1) Remove the watercraft from the water and drain the water from the storage compartments.

(2) Drain the bilge water from the engine compartment. (See page 46 for information on draining the bilge water.)
(3) Have the watercraft serviced by a Yamaha dealer as soon as possible. ***NOTICE:*** **Be sure to have a Yamaha dealer inspect the watercraft. Otherwise, serious engine damage could result.** [ECJ00792]

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